



## STATEMENT OF BASIS

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### BAQ Engineering Services Division

2600 Bull Street, Columbia, SC 29201

Phone: 803-898-4123 Fax: 803-898-4079

**Company Name:** Santee Cooper Pee Dee Generating Station  
**Permit Number:** 1040-0113-CA

**Permit Writer:** Joe Eller  
**Date:** December 16, 2008

**DATE APPLICATION RECEIVED:** PSD application received May 31, 2006 (Deemed complete with submittal of modeling analysis received July 25, 2006); 112(g) application received June 30, 2008.

**DATE OF LAST INSPECTION:** N/A (new facility)

**PHYSICAL LOCATION:** 2651 South Old River Road, Pamplico, Florence County

**SIC/NAICS CODE(s):** 4911 / 221112

### FACILITY DESCRIPTION

This is a Greenfield site located in Florence County bordering on the Pee Dee River with Marion County on the east side of the river. The facility will consist of 2 coal-fired boilers and ancillary equipment capable of producing a nominal 1,320 megawatts of electricity if both boilers are installed.

### PROJECT DESCRIPTION

This is an application to establish a new utility site consisting of two coal-fired boilers, each rated at a maximum of 5,700 million Btu/hr. Each boiler will provide steam to a generator to produce a nominal 660 megawatts of electricity for sale on the grid.

The boilers will also be capable of firing up to 30% blend of petcoke, and will start up on ultra low sulfur (or No. 2 if ultra low sulfur is not available) fuel oil or natural gas (up to  $1656 \times 10^6$  Btu/hr). In addition to the boilers, the facility is requesting to install two emergency generators, 1500 KW each, a 425 HP fire pump, coal handling equipment, limestone handling equipment, gypsum handling equipment, fly ash and bottom ash handling equipment, and several storage tanks, including ammonia storage tanks subject to CAA Section 112(r) requirements. The initial application also included an auxiliary boiler but the facility subsequently requested that the auxiliary boiler be deleted and removed from the application.

This project will result in emissions that trigger PSD review, requiring BACT review and limitations for pollutants resulting in emissions above significant increases. In addition, equipment at the facility will be subject to applicable state and federal regulations. The boilers will be subject to NSPS Subpart Da requirements due to their size. Portions of the coal handling equipment and coal crusher will be subject to NSPS Subpart Y. Portions of the limestone handling, gypsum handling, and limestone crusher equipment will be subject to NSPS Subpart OOO. Based on vacatur of the CAMR rule, this project also triggers a case-by-case MACT Determination with resulting limitations on HAP emissions.

### SOURCE DESCRIPTION

The following list of equipment is taken from the application Part IIA and Part IIB forms, as well as information subsequently submitted.

CP ID	Unit ID	Equip ID	Equipment Description	Installation Date	Modification Date	Control Device ID	Stack ID
CA	01	B01	5,700 x $10^6$ Btu/hr maximum input (660 MW nominal output) Boiler 1 [this boiler will be fired on coal or up to 30% petcoke, including use of ultra low sulfur fuel oil* or natural gas during startup and flame stabilization up to $1656 \times 10^6$ Btu/hr]. This boiler is tangentially fired with two levels of separated over fire air.	future	N/A	FF01, FGD01, SCR01	S01
CA	02	B02	5,700 x $10^6$ Btu/hr maximum input (660 MW nominal output) Boiler 2 [this boiler will be fired on coal or up to 30% petcoke, including use of ultra low sulfur fuel oil* or natural gas during startup and flame stabilization up to $1656 \times 10^6$ Btu/hr]. This boiler is tangentially fired with two levels of separated over fire air.	future	N/A	FF02, FGD02, SCR02	S02



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CP ID	Unit ID	Equip ID	Equipment Description	Installation Date	Modification Date	Control Device ID	Stack ID
CA	03	MT01-05, MT08-12, SP03, S01-S06, S07-S12	Material Transfer – Coal (represents total of 13 sources, including 9 controlled)	future	N/A	BH01- BH09 or WMDC01- WMDC09	MT01, C2, C3A, C3B, C4B, C5A, C5B, C6A, C6B, S01-S06, S07-S12, 3 fugitives
CA	04	SP04, MT14, MT15	Material Transfer – Petcoke (represents 3 sources, including 1 controlled)	Future	N/A	BH10 or WMDC10	C4A, 2 fugitives
CA	05	CR01	900 tph Coal-Petcoke Crusher	Future	N/A	BH11 or WMDC11	CR01
CA	06	MT20- MT30, SP01	Material Transfer – Limestone (represents 12 sources, including 6 controlled)	Future	N/A	BH12- BH14 or WMDC12- WMDC14, BVF01- BVF03	MT23-25, MT28-30, 6 fugitives
CA	07	CR02	125 tons/hr Crusher	Future	N/A	BH15 or WMDC15	CR02
CA	08	MT34- MT36, SP02, SP05	Material Transfer – Gypsum (represents 5 sources)	Future	N/A	N/A	5 fugitives
CA	09	MT16- MT19, MT31- MT33	Material Transfer – Fly Ash (represents 7 sources including 5 controlled)	Future	N/A	BH16- BH20 or WMDC16- WMDC20	MT16-19, MT33, 2 fugitives
CA	10	MT06	Material Transfer – Bottom Ash (represents 1 source)	Future	N/A	N/A	1 fugitive
CA	11	CT01, CT02	Cooling Tower No. 1, Cooling Tower No. 2 (represents 2 sources)	Future	N/A	N/A	2 fugitives

\* The facility will be allowed to burn No. 2 fuel oil if ultra low sulfur fuel oil is not commercially available.

Note: The facility initially indicated the boilers would fire fuel oil or natural gas up to 480 million Btu/hr but subsequently revised the firing rate up to 1656 million Btu/hr.

### CONTROL EQUIPMENT

The facility initially proposed to use electrostatic precipitators (ESPs) for the control of PM emissions from the boilers. Subsequent to vacatur of the CAMR regulation, the facility amended the application to use fabric filters for control of PM emissions from the boilers instead of using ESPs. This change was made to achieve better control of mercury emissions.

The facility initially requested the use of baghouses for the material handling equipment. However, subsequently the facility has requested that the use of baghouses for controlling particulate matter emissions from material handling equipment as specified in the initial application be changed to allow use of either baghouses or functionally equivalent water mist dust eliminators. The Bureau will allow the use of functionally equivalent water mist dust eliminators instead of baghouses. This approval is contingent on the facility submitting detailed water mist dust eliminator information and getting written approval from the Bureau verifying equivalency before installing any water mist dust eliminator.



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**Date:** December 16, 2008

Control Device ID	Control Device Description	Installation Date	Pollutant(s) Controlled	Efficiency Capture (%)	Efficiency Removal (%)
FF01	Fabric Filter	Future	PM	100	99
FGD01	Flue Gas Desulfurization	Future	SO <sub>2</sub>	100	97.5
SCR01	Selective Catalytic Reduction	Future	NO <sub>x</sub>	100	74
FF02	Fabric Filter	Future	PM	100	99
FGD02	Flue Gas Desulfurization	Future	SO <sub>2</sub>	100	97.5
SCR02	Selective Catalytic Reduction	Future	NO <sub>x</sub>	100	74
BH01 or WMDC01	Baghouse or water mist dust collector	Future	PM / PM <sub>10</sub>	100	99
BH02 or WMDC02	Baghouse or water mist dust collector	Future	PM / PM <sub>10</sub>	100	99
BH03 or WMDC03	Baghouse or water mist dust collector	Future	PM / PM <sub>10</sub>	100	99
BH04 or WMDC04	Baghouse or water mist dust collector	Future	PM / PM <sub>10</sub>	100	99
BH05 or WMDC05	Baghouse or water mist dust collector	Future	PM / PM <sub>10</sub>	100	99
BH06 or WMDC06	Baghouse or water mist dust collector	Future	PM / PM <sub>10</sub>	100	99
BH07 or WMDC07	Baghouse or water mist dust collector	Future	PM / PM <sub>10</sub>	100	99
BH08 or WMDC08	Baghouse or water mist dust collector	Future	PM / PM <sub>10</sub>	100	99
BH09 or WMDC09	Baghouse or water mist dust collector	Future	PM / PM <sub>10</sub>	100	99
BH10 or WMDC10	Baghouse or water mist dust collector	Future	PM / PM <sub>10</sub>	100	99
BH11 or WMDC11	Baghouse or water mist dust collector	Future	PM / PM <sub>10</sub>	100	99
BH12 or WMDC12	Baghouse or water mist dust collector	Future	PM / PM <sub>10</sub>	100	99
BH13 or WMDC13	Baghouse or water mist dust collector	Future	PM / PM <sub>10</sub>	100	99
BH14 or WMDC14	Baghouse or water mist dust collector	Future	PM / PM <sub>10</sub>	100	99
BVF01	Bin Vent Filter	Future	PM / PM <sub>10</sub>	100	99
BVF02	Bin Vent Filter	Future	PM / PM <sub>10</sub>	100	99
BVF03	Bin Vent Filter	Future	PM / PM <sub>10</sub>	100	99
BH15 or WMDC15	Baghouse or water mist dust collector	Future	PM / PM <sub>10</sub>	100	99
BH16 or WMDC16	Baghouse or water mist dust collector	Future	PM / PM <sub>10</sub>	100	99
BH17 or WMDC17	Baghouse or water mist dust collector	Future	PM / PM <sub>10</sub>	100	99
BH18 or WMDC18	Baghouse or water mist dust collector	Future	PM / PM <sub>10</sub>	100	99
BH19 or WMDC19	Baghouse or water mist dust collector	Future	PM / PM <sub>10</sub>	100	99



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Control Device ID	Control Device Description	Installation Date	Pollutant(s) Controlled	Efficiency Capture (%)	Efficiency Removal (%)
BH20 or WMDC20	Baghouse or water mist dust collector	Future	PM / PM <sub>10</sub>	100	99

Equip ID	Source Description (Date Listed)	Basis
D01	14.08 x 10 <sup>6</sup> Btu/hr (1,500 KW) Emergency Generator 1	SC Regulation 61-62.1, Section II(B)(2)(f)(ii) (will operate less than 500 hrs/yr)
D02	14.08 x 10 <sup>6</sup> Btu/hr (1,500 KW) Emergency Generator 2	SC Regulation 61-62.1, Section II(B)(2)(f)(ii) (will operate less than 500 hrs/yr)
F01	3.2 x 10 <sup>6</sup> Btu/hr (425 HP) Emergency Fire Pump	SC Regulation 61-62.1, Section II(B)(2)(f)(ii) (will operate less than 500 hrs/yr)
T01	300,000 gallons Fuel Oil Storage Tank	SC Regulation 61-62.1, Section II(B)(2)(h) [NSPS Kb was modified 10/15/03, no longer applying to this source]
T02	16,000 gallons Lube Oil Storage Tank #1	SC Regulation 61-62.1, Section II(B)(2)(h) [NSPS Kb was modified 10/15/03, no longer applying to this source]
T03	16,000 gallons Lube Oil Storage Tank #2	SC Regulation 61-62.1, Section II(B)(2)(h) [NSPS Kb was modified 10/15/03, no longer applying to this source]
T04-09	(6) 30,000 gallon Anhydrous Ammonia Storage Tanks (3 per unit)	SC Regulation 61-62.1, Section II(B)(2)(h)
T10-11	(2) 2,500 gallon Diesel Fuel Storage Tanks (one each for Emergency Generators D01 and D02)	SC Regulation 61-62.1, Section II(B)(2)(h)
T12	550 gallon Diesel Fuel Storage Tank (for Fire Pump)	SC Regulation 61-62.1, Section II(B)(2)(h)
T13-14	(2) 7,100 gallon Lube Oil Reservoir Tanks	SC Regulation 61-62.1, Section II(B)(2)(h)
T15-16	(2) 2,000 gallon Clean Lube Oil Storage Tanks	SC Regulation 61-62.1, Section II(B)(2)(h)
T17	11,200 gallon Sulfuric Acid Storage Tank – Demin System	SC Regulation 61-62.1, Section II(B)(2)(h)
T18-20	(3) 6,000 gallon Sulfuric Acid Storage Tanks (one each for Cooling Towers CT01 and CT02 and Pretreatment Area)	SC Regulation 61-62.1, Section II(B)(2)(h)
T21-22	(2) 11,200 gallon Sodium Hydroxide Storage Tanks (one each for Demin System and Pretreatment Area)	SC Regulation 61-62.1, Section II(B)(2)(h)
T23-24	(2) 8,000 gallon Hypochlorite Storage Tanks (one each for Intake Area and Pretreatment Area)	SC Regulation 61-62.1, Section II(B)(2)(h)
T25-26	(2) 12,000 gallon Hypochlorite Storage Tanks (one each for Cooling Towers CT1 and CT2)	SC Regulation 61-62.1, Section II(B)(2)(h)
T27	12,000 gallon Organic Acid Storage Tank	SC Regulation 61-62.1, Section II(B)(2)(h)



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Equip ID	Source Description (Date Listed)	Basis
T28	1,000 gallon Yard Equipment Refueling Diesel Storage Tank	SC Regulation 61-62.1, Section II(B)(2)(h)
T29	2,000 gallon Vehicle Refueling Gasoline Storage Tank	SC Regulation 61-62.1, Section II(B)(2)(h)

Note: The facility initially specified a 380 HP fire pump but subsequently revised the size to a 425 HP fire pump. A number of tanks were added to the proposed facility via application addendum.

### PSD COMPLETENESS REVIEW

This application must comply with requirements of SC Regulation 61-62.5, Standard No. 7 for PSD requirements. The essential requirements are summarized as follows with determination of whether the project meets those requirements as a complete application:

1) Ambient air increments – Std. 7, Part (c)

*Requirement:* Pollutant concentrations shall not exceed stated amounts.

*Initial Application:* **Not Complete.** The initial application was submitted May 31, 2006. That portion of the application did not include a modeling analysis.

*Volume II received July 25, 2006:* **Complete.** The Volume II application includes ambient air increments.

2) Ambient air ceilings - Std. 7, Part (d)

*Requirement:* Pollutant concentrations shall not exceed the lower of national secondary or national primary ambient air quality standards.

*Application:* **Initially Not Complete.** The initial application was submitted May 31, 2006. That portion of the application did not include a modeling analysis.

*Volume II received July 25, 2006:* **Complete.** The Volume II application includes a modeling analysis.

3) Stack Heights - Std. 7, Part (h)

*Requirement:* Emission limitation required for control shall not be affected by stack height in excess of good engineering practice (GEP).

*Application:* **Initially Not Complete.** The initial application was submitted May 31, 2006. That portion of the application did not include a modeling analysis.

*Volume II received July 25, 2006:* **Complete.** The Volume II application includes a GEP stack height analysis.

4) Exemptions, - Std. 7, Part (i)

*Requirement:* Certain conditions may exist that exempts a source from applicability to Parts (j) through (r).

*Application:* **OK.** The application does not claim exemption from those parts since none of them apply.

5) Control technology review - Std. 7, Part (j)

*Requirement:* New facility must apply BACT for each regulated pollutant with potential to emit in significant amounts.

*Application:* **OK.** The facility has determined that BACT controls are required for PM / PM<sub>10</sub>/PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO, VOC, lead, fluorides, and sulfuric acid mist. The facility did submit a BACT review and BACT requirements for these pollutants. Discussions later in this review will address the adequacy of the BACT determinations.

6) Source impact analysis - Std 7, Part (k)

*Requirement:* Include an analysis to show that no national ambient air quality standard in any air quality region is being violated. Include an analysis to show that no increase over the baseline concentration exceeds applicable maximum allowable.

*Application:* **Initially Not Complete.** The initial application was submitted May 31, 2006. That portion of the application did not include a modeling analysis.

*Volume II received July 25, 2006:* **Complete.** The Volume II application includes a modeling analysis addressing increases over baseline concentrations.

7) Air quality models - Std. 7, Part (l)

*Requirement:* Air quality models used in estimating ambient concentrations must be EPA approved.

*Application:* **Initially Not Complete.** The initial application was submitted May 31, 2006. That portion of the application did not include a modeling analysis.

*Volume II received July 25, 2006:* **Complete.** The Volume II application includes a discussion of model selection.

8) Air quality analysis - Std. 7, Part (m)

*Requirement:* Preconstruction and/or post construction monitoring may be required. The Department may waive monitoring requirements if certain conditions are met.



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<b>Permit Number:</b>	1040-0113-CA	<b>Date:</b>	December 16, 2008

*Application: **Initially Not Complete.*** The initial application was submitted May 31, 2006. That portion of the application did not include a modeling analysis that addresses this requirement.

*Volume II received July 25, 2006: **Complete.*** The Volume II application addresses pre-construction monitoring and proposes that it not be required.

9a) Source information - Std. 7, Part (n)(1)

*Requirement:* Provide a description of the nature, location, design capacity, and typical operating schedule including specifications and drawings showing its design and plant layout.

*Application: **Initially Not Complete.*** The application does not include process diagram schematics that describe equipment and control device relationships. The facility submitted essentially all the remaining requested information in Volume II, received July 25, 2006. The Bureau determined that the application should be considered **Complete** as of July 25, 2006, and allow the facility to submit the requested process diagrams at a later date as supplemental information.

9b) Source information - Std. 7, Part (n)(2)

*Requirement:* Provide air quality impact of the plant including meteorological and topographical data and air quality impact of any or all other growth since 8/7/77 in the area the plant would affect.

*Application: **Initially Not Complete.*** The initial application was submitted May 31, 2006. That portion of the application did not include a modeling analysis.

*Volume II received July 25, 2006: **Complete.*** The Volume II application includes a modeling analysis including the impact area.

10) Additional impact analysis - Std. 7, Part (o)

*Requirement:* Provide an analysis of impairment to visibility, soils, and vegetation as a result of the plant. Provide an analysis of general commercial, residential, industrial and other growth associated with the plant. Provide an analysis of air quality impact of the area as a result of general commercial, residential, industrial, or other growth associated with the plant.

*Application: **Initially Not Complete.*** The initial application was submitted May 31, 2006. That portion of the application did not include a modeling analysis.

*Volume II received July 25, 2006: **Complete.*** The Volume II application addresses growth, soil and vegetation impact, and plume visibility.

11) Additional requirements for Class I areas - Std. 7, Part (p)

*Requirement:* For applications impacting Class I areas, BAQ must submit a copy of the application to EPA and notify EPA of every action related to consideration of the permit. BAQ must also submit a notice to the Federal Land Manager for which concurrences, variances, or denials must be determined in conjunction with the Federal Land Manager, EPA, and BAQ and possibly higher authorities.

*Application: **Initially Not Complete.*** The initial application was submitted May 31, 2006. That portion of the application did not include a modeling analysis. BAQ will not submit copies of the application to EPA or Federal Land Manager until a complete application is received.

*Volume II received July 25, 2006: **Complete.*** The Volume II application addresses Class I requirements. BAQ has provided copies of the application to EPA and the FLM (Santee Cooper provided copies of Volume II, Class I Modeling, and hard drive to FLM.)

12) Public Participation - Std. 7, Part (q)

*Requirement:* BAQ must notify the applicant within 30 days of any deficiency in the application and transmit a copy to EPA. If deficient, the date of receipt of the application shall be the date on which all required information is received. BAQ must make a final determination within 1 year involving a preliminary determination, notification to the public, opportunity for public hearing, responses to the applicant and EPA of actions.

*Application: **OK.*** The burden for this aspect rests with BAQ.

13) Source obligation - Std. 7, Part (r)

*Requirement:* Any owner or operator who constructs or begins to constructs without an approval to construct shall be subject to enforcement action. The construction permit when issued is valid for a limited period of time. The construction permit does not relieve the facility from complying with other applicable requirements. When a plant becomes subject to this standard through relaxation of a limit, this standard will apply as though construction has not commenced.

*Application: **OK.*** The review of this application and issuance of any permit is being done with understanding of above requirements.

14) Innovative control technology - Std. 7, Part (v)

*Requirement:* The applicant may request to use innovative control technology subject to certain requirements and conditions that the applicant agrees to follow.

*Application: **OK.*** This application does not include innovative control technology.

15) Permit rescission - Std. 7, Part (w)



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<b>Permit Number:</b>	1040-0113-CA	<b>Date:</b>	December 16, 2008

*Requirement:* Permits issued under PSD rules shall remain in effect until rescinded. Rescission shall include a public notice of that action.

*Application:* **OK.** The review of this application and issuance of any permit is being done with understanding of above requirements.

16. Clean Unit Test for emissions units that are subject to BACT or LAER – Std. 7, Part (x)

*Requirement:* Facility may request to use the Clean Unit Test if source is to be permitted as a Clean Unit.

*Application:* **OK.** Facility is not requesting to permit equipment as Clean Units.

17. Clean Unit provisions for emissions units that achieve an emissions limitation comparable to BACT – Std. 7, Part (y)

*Requirement:* Facility has the option to use the Clean Unit Test in characterizing emissions increases at a Clean Unit.

*Application:* **OK.** Facility does not already have a Clean Unit at this location.

18. PCP exclusion procedural requirements – Std. 7, Part (z)

*Requirement:* Facility must satisfy certain requirements if project is a PCP project.

*Application:* **OK.** This requirement would be overridden due to PCP projects having been stayed by the courts; however, this is not submitted as a PCP project.

19. Actuals PALs – Std. 7, Part (aa)

*Requirement:* Facility must address certain requirements if an existing major stationary source is operating under a PAL permit.

*Application:* **OK.** This is not an existing source operating under a PAL.

20. Invalidation – Std. 7, Part (bb)

*Requirement:* If any part of this regulation (Std. 7) is held invalid, the remainder of the regulation will be unaffected.

*Application:* **OK.** The review of this application and issuance of a permit is being done with understanding of above requirements.

Summary of PSD Completeness: Part I application (project description, emissions, regulatory applicability, BACT analysis, etc) was received 5/31/06 but did not include a modeling analysis. Part II of the application that included a modeling analysis was received 7/25/06 and the application was deemed complete with receipt of that information.

UNCONTROLLED POTENTIAL EMISSIONS					
EU ID	EQ ID	Pollutant	lb/hr	TPY @ 8760 or specified hours	Method for Estimating Emissions
01	B01	PM (total)	41,040	179,755	Hourly rate specified by facility (equates to 99.75% control for limit of 0.018 lb/10 <sup>6</sup> Btu)
01	B01	PM (filterable)	34,200	149,746	Hourly rate specified by facility (equates to 99.75% control for limit of 0.015 lb/10 <sup>6</sup> Btu)
01	B01	PM <sub>10</sub> (total)	41,040	179,755	Hourly rate specified (equates to 99.75% control for limit of 0.018 lb/10 <sup>6</sup> Btu)
01	B01	PM <sub>10</sub> (filterable)	27,360	119,837	Hourly rate specified (equates to 99.75% control for limit of 0.012 lb/10 <sup>6</sup> Btu)
01	B01	SO <sub>2</sub>	34,200	149,796	Calculated on fuel rate and sulfur content (6 lb/10 <sup>6</sup> Btu x 5700, x 8760/2000)
01	B01	NO <sub>x</sub>	1,539	6,741	0.27 lb/10 <sup>6</sup> Btu x 5700, x 8760/2000 (equates to 74% control for limit of 0.07 lb/10 <sup>6</sup> Btu) (0.17 lb/10 <sup>6</sup> Btu is specified as uncontrolled rate for 100% coal feed)
01	B01	CO	855	3,745	Based on limit of 0.15 lb/million Btu (initially based on Vendor guarantee of 0.16 lb/million Btu)
01	B01	VOC	13.68	61.2	Vendor guarantee (equates to 0.0024 lb/million Btu)
01	B01	Lead	0.11	0.48	BACT determination (AP-42) of 1.91E-05 lb/10 <sup>6</sup> Btu x 5700 x 10 <sup>6</sup> Btu/hr



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### UNCONTROLLED POTENTIAL EMISSIONS

EU ID	EQ ID	Pollutant	lb/hr	TPY@ 8760 or specified hours	Method for Estimating Emissions
01	B01	Sulfuric Acid	28.5	125	BACT determination of 0.005 lb/million Btu
01	B01	Total HAPS	20.8	91.03	AP-42, Tables 1.1-13, 14, 15, 18 (controlled)
02	B02	PM (total)	41,040	179,755	Hourly rate specified by facility (equates to 99.75% control for limit of 0.018 lb/10 <sup>6</sup> Btu)
02	B02	PM (filterable)	34,200	149,746	Hourly rate specified by facility (equates to 99.75% control for limit of 0.015 lb/10 <sup>6</sup> Btu)
02	B02	PM <sub>10</sub> (total)	41,040	179,755	Hourly rate specified (equates to 99.75% control for limit of 0.018 lb/10 <sup>6</sup> Btu)
02	B02	PM <sub>10</sub> (filterable)	27,360	119,837	Hourly rate specified (equates to 99.75% control for limit of 0.012 lb/10 <sup>6</sup> Btu)
02	B02	SO <sub>2</sub>	34,200	149,796	Calculated on fuel rate and sulfur content (6 lb/10 <sup>6</sup> Btu x 5700, x 8760/2000)
02	B02	NO <sub>x</sub>	1,539	6,741	0.27 lb/10 <sup>6</sup> Btu x 5700, x 8760/2000 (equates to 74% control for limit of 0.07 lb/10 <sup>6</sup> Btu)
02	B02	CO	855	3,745	Based on limit of 0.15 lb/million Btu (initially based on Vendor guarantee of 0.16 lb/million Btu)
02	B02	VOC	13.68	61.2	Vendor guarantee (equates to 0.0024 lb/million Btu)
02	B02	Lead	0.11	0.48	BACT determination (AP-42) of 1.91E-05 lb/10 <sup>6</sup> Btu x 5700 x 10 <sup>6</sup> Btu/hr
02	B02	Sulfuric Acid	28.5	125	BACT determination of 0.005 lb/million Btu
02	B02	Total HAPS	20.8	91.03	AP-42, Tables 1.1-13, 14, 15, 18 (controlled)
Ex	D01	PM	1.41	0.36	AP-42, Table 3.4-1 (14.08 x 10 <sup>6</sup> Btu/hr x 0.1 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	D01	PM <sub>10</sub>	1.41	0.36	AP-42, Table 3.4-1 (14.08 x 10 <sup>6</sup> Btu/hr x 0.1 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	D01	SO <sub>2</sub>	0.71	0.18	AP-42, Table 3.4-1 (14.08 x 10 <sup>6</sup> Btu/hr x 0.0505 lb/10 <sup>6</sup> Btu, 0.05% sulfur fuel), 500 hrs/yr
Ex	D01	NO <sub>x</sub>	45.06	11.26	AP-42, Table 3.4-1 (14.08 x 10 <sup>6</sup> Btu/hr x 3.2 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	D01	CO	11.97	3.00	AP-42, Table 3.4-1 (14.08 x 10 <sup>6</sup> Btu/hr x 0.85 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	D01	VOC	1.27	0.32	AP-42, Table 3.4-1 (14.08 x 10 <sup>6</sup> Btu/hr x 0.09 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	D02	PM	1.41	0.36	AP-42, Table 3.4-1 (14.08 x 10 <sup>6</sup> Btu/hr x 0.1 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	D02	PM <sub>10</sub>	1.41	0.36	AP-42, Table 3.4-1 (14.08 x 10 <sup>6</sup> Btu/hr x 0.1 lb/10 <sup>6</sup> Btu), 500 hrs/yr





# STATEMENT OF BASIS

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## BAQ Engineering Services Division

2600 Bull Street, Columbia, SC 29201

Phone: 803-898-4123 Fax: 803-898-4079

**Company Name:** Santee Cooper Pee Dee Generating Station  
**Permit Number:** 1040-0113-CA

**Permit Writer:** Joe Eller  
**Date:** December 16, 2008

### UNCONTROLLED POTENTIAL EMISSIONS

EU ID	EQ ID	Pollutant	lb/hr	TPY @ 8760 or specified hours	Method for Estimating Emissions
Ex	D02	SO <sub>2</sub>	0.71	0.18	AP-42, Table 3.4-1 (14.08 x 10 <sup>6</sup> Btu/hr x 0.0505 lb/10 <sup>6</sup> Btu, 0.05% sulfur fuel), 500 hrs/yr
Ex	D02	NO <sub>x</sub>	45.06	11.26	AP-42, Table 3.4-1 (14.08 x 10 <sup>6</sup> Btu/hr x 3.2 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	D02	CO	11.97	3.00	AP-42, Table 3.4-1 (14.08 x 10 <sup>6</sup> Btu/hr x 0.85 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	D02	VOC	1.27	0.32	AP-42, Table 3.4-1 (14.08 x 10 <sup>6</sup> Btu/hr x 0.09 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	F01	PM	0.99	0.24	AP-42, Table 3.3-1 (3.2 x 10 <sup>6</sup> Btu/hr x 0.31 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	F01	PM <sub>10</sub>	0.99	0.24	AP-42, Table 3.3-1 (3.2 x 10 <sup>6</sup> Btu/hr x 0.31 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	F01	SO <sub>2</sub>	0.93	0.23	AP-42, Table 3.3-1 (3.2 x 10 <sup>6</sup> Btu/hr x 0.29 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	F01	NO <sub>x</sub>	14.11	3.52	AP-42, Table 3.3-1 (3.2 x 10 <sup>6</sup> Btu/hr x 4.41 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	F01	CO	3.04	0.76	AP-42, Table 3.3-1 (3.2 x 10 <sup>6</sup> Btu/hr x 0.95 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	F01	VOC	1.15	0.28	AP-42, Table 3.3-1 (3.2 x 10 <sup>6</sup> Btu/hr x 0.36 lb/10 <sup>6</sup> Btu), 500 hrs/yr
03	MT01	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	2.0/1.0/0.124	3.0/1.0/0.188	AP-42, Section 13.2.4
03	MT02	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	2.0/1.0/0.124	3.0/1.0/0.188	AP-42, Section 13.2.4
03	MT03	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	1.73/0.82/0.124	2.62/1.24/0.188	AP-42, Section 13.2.4
03	MT04	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	2.0/1.0/0.124	3.0/1.0/0.188	AP-42, Section 13.2.4
03	MT05	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	2.0/1.0/0.124	3.0/1.0/0.188	AP-42, Section 13.2.4
03	MT08	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	1.73/0.82/0.124	2.62/1.24/0.188	AP-42, Section 13.2.4
03	MT09	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	1.73/0.82/0.124	2.62/1.24/0.188	AP-42, Section 13.2.4
03	MT10	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	2.0/1.0/0.124	3.0/1.0/0.188	AP-42, Section 13.2.4
03	MT11	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	2.0/1.0/0.124	3.0/1.0/0.188	AP-42, Section 13.2.4
03	MT12 S01-06 S07-12	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	21.0/10.0/1.49	31.0/15.0/2.26	AP-42, Section 13.2.4
03	SP03	PM/PM <sub>10</sub>	1.05/0.63	4.61/2.77	EPA-450/3-88-008
04	MT14	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	1.73/0.82/0.12	0.79/0.37/0.06	AP-42, Section 13.2.4
04	MT15	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	2.0/0.821/0.124	1.0/0.372/0.0564	AP-42, Section 13.2.4
04	SP04	PM/PM <sub>10</sub>	0.76/0.45	3.32/1.99	EPA-450/3-88-008
05	CR01	PM/PM <sub>10</sub>	59.0/23.0	89.0/34.0	AP-42, Table 11.19.2-2
06	MT20	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.13/0.06/0.01	0.25/0.12/0.02	AP-42, Section 13.2.4
06	MT21	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.13/0.06/0.01	0.25/0.12/0.02	AP-42, Section 13.2.4
06	MT22	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.13/0.06/0.01	0.25/0.12/0.02	AP-42, Section 13.2.4
06	MT23	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.132/0.0625/0.00946	0.247/0.117/0.0177	AP-42, Section 13.2.4
06	MT24	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.132/0.0625/0.00946	0.247/0.117/0.0177	AP-42, Section 13.2.4
06	MT25	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.132/0.0625/0.00946	0.247/0.117/0.0177	AP-42, Section 13.2.4
06	MT26	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.13/0.06/0.01	0.25/0.12/0.02	AP-42, Section 13.2.4
06	MT27	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.13/0.06/0.01	0.25/0.12/0.02	AP-42, Section 13.2.4
06	MT28	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.132/0.0625/0.00946	0.247/0.117/0.0177	AP-42, Section 13.2.4



# STATEMENT OF BASIS

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## BAQ Engineering Services Division

2600 Bull Street, Columbia, SC 29201

Phone: 803-898-4123 Fax: 803-898-4079

Company Name:

Santee Cooper Pee Dee Generating Station

Permit Writer:

Joe Eller

Permit Number:

1040-0113-CA

Date:

December 16, 2008

### UNCONTROLLED POTENTIAL EMISSIONS

EU ID	EQ ID	Pollutant	lb/hr	TPY @ 8760 or specified hours	Method for Estimating Emissions
06	MT29	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.132/0.0625/0.00946	0.247/0.117/0.0177	AP-42, Section 13.2.4
06	MT30	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.132/0.0625/0.00946	0.247/0.117/0.0177	AP-42, Section 13.2.4
06	SP01	PM/PM <sub>10</sub>	0.178/0.107	0.778/0.467	Document EPA-450/3-88-008
07	CR02	PM/PM <sub>10</sub>	5.0/2.0	9.0/4.0	AP-42, Table 11.19.2-2
08	MT34	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.254/0.12/0.018	0.425/0.201/0.0305	AP-42, Section 13.2.4
08	MT35	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.254/0.12/0.018	0.425/0.201/0.0305	AP-42, Section 13.2.4
08	MT36	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.254/0.12/0.018	0.425/0.201/0.0305	AP-42, Section 13.2.4
08	SP02	PM/PM <sub>10</sub>	0.27/0.16	1.19/0.72	EPA-450/3-88-008
08	SP05	PM/PM <sub>10</sub>	0.27/0.16	1.19/0.72	EPA-450/3-88-008
09	MT16	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	1.08/0.511/0.0773	0.556/0.263/0.0398	AP-42, Section 13.2.4
09	MT17	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	1.08/0.511/0.0773	0.556/0.263/0.0398	AP-42, Section 13.2.4
09	MT18	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	1.08/0.511/0.0773	0.556/0.263/0.0398	AP-42, Section 13.2.4
09	MT19	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	1.08/0.511/0.0773	0.556/0.263/0.0398	AP-42, Section 13.2.4
09	MT31	PM	0	0	No emissions due to material being wet
09	MT32	PM	0	0	No emissions due to material being wet
09	MT33	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.142/0.0674/0.0102	0.0773/0.0347/0.00525	AP-42, Section 13.2.4
10	MT37	PM	0	0	No emissions due to material being wet
11	CT01	PM	0.466	2.04	Technical Report EPA 600 7-79-251a, Nov. 1979
11	CT02	PM	0.466	2.04	Technical Report EPA 600 7-79-251a, Nov. 1979
Ex	T01	VOC	0.0205	0.09	Tanks 4.0
Ex	T02	VOC	0.002	0.01	Tanks 4.0
Ex	T03	VOC	0.002	0.01	Tanks 4.0

### CONTROLLED POTENTIAL EMISSIONS

EU ID	EQ ID	Pollutant	lb/hr	TPY @ 8760 or specified hours	Method for Estimating Emissions
01	B01	PM (total)	102.6	449.39	BACT determination of 0.018 lb/10 <sup>6</sup> Btu x 5700 x 10 <sup>6</sup> Btu/hr (note 1)
01	B01	PM (filterable)	85.5	374.49	BACT determination of 0.015 lb/10 <sup>6</sup> Btu x 5700 x 10 <sup>6</sup> Btu/hr (note 1)
01	B01	PM <sub>10</sub> (total)	102.6	449.39	BACT determination of 0.018 lb/10 <sup>6</sup> Btu x 5700 x 10 <sup>6</sup> Btu/hr (note 1)
01	B01	PM <sub>10</sub> (filterable)	68.4	299.59	BACT determination of 0.012 lb/10 <sup>6</sup> Btu x 5700 x 10 <sup>6</sup> Btu/hr (note 1)
01	B01	SO <sub>2</sub>	684.0	2995.9	BACT determination of 0.12 lb/10 <sup>6</sup> Btu x 5700 x 10 <sup>6</sup> Btu/hr (daily and annual basis)
01	B01	NO <sub>x</sub>	399.0	1747.6	BACT determination of 0.07 lb/10 <sup>6</sup> Btu x 5700 x 10 <sup>6</sup> Btu/hr
01	B01	CO	855.0 *	3744.9 *	BACT determination of 0.15 lb/10 <sup>6</sup> Btu x 5700 x 10 <sup>6</sup> Btu/hr
01	B01	VOC	13.68 *	59.92 *	BACT determination of 0.0024 lb/10 <sup>6</sup> Btu x 5700 x 10 <sup>6</sup> Btu/hr
01	B01	Lead	0.11	0.48	BACT determination (AP-42) of 1.91E-05 lb/10 <sup>6</sup> Btu x 5700 x 10 <sup>6</sup> Btu/hr



# STATEMENT OF BASIS

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## BAQ Engineering Services Division

2600 Bull Street, Columbia, SC 29201

Phone: 803-898-4123 Fax: 803-898-4079

**Company Name:** Santee Cooper Pee Dee Generating Station  
**Permit Number:** 1040-0113-CA

**Permit Writer:** Joe Eller  
**Date:** December 16, 2008

### CONTROLLED POTENTIAL EMISSIONS

EU ID	EQ ID	Pollutant	lb/hr	TPY @ 8760 or specified hours	Method for Estimating Emissions
01	B01	Sulfuric Acid	28.5	125	BACT determination of 0.005 lb/10 <sup>6</sup> Btu x 5700 x 10 <sup>6</sup> Btu/hr
01	B01	1,1,[2]-Trichloroethane	5.18E-03	2.27E-02	AP-42, Table 1.1-14 (9/98)
01	B01	2,4-Dinitrotoluene	7.25E-05	3.18E-04	AP-42, Table 1.1-14 (9/98)
01	B01	2-Chloroacetophenone	1.81E-03	7.95E-03	AP-42, Table 1.1-14 (9/98)
01	B01	5-Methyl chrysene	5.70E-06	2.50E-05	AP-42, Table 1.1-13 (9/98)
01	B01	Acenaphthene	1.32E-04	5.79E-04	AP-42, Table 1.1-13 (9/98)
01	B01	Acenaphthylene	6.48E-05	2.84E-04	AP-42, Table 1.1-13 (9/98)
01	B01	Acetaldehyde	1.48E-01	6.47E-01	AP-42, Table 1.1-14 (9/98)
01	B01	Acetophenone	3.89E-03	1.70E-02	AP-42, Table 1.1-14 (9/98)
01	B01	Acrolein	7.51E-02	3.29E-01	AP-42, Table 1.1-14 (9/98)
01	B01	Anthracene	5.44E-05	2.38E-04	AP-42, Table 1.1-13 (9/98)
01	B01	Benzene	3.37E-01	1.48E+00	AP-42, Table 1.1-14 (9/98)
01	B01	Benzo(a)anthracene	2.07E-05	9.08E-05	AP-42, Table 1.1-13 (9/98)
01	B01	Benzo(a)pyrene	9.85E-06	4.31E-05	AP-42, Table 1.1-13 (9/98)
01	B01	Benzo(b,j,k)fluoranthene	2.85E-05	1.25E-04	AP-42, Table 1.1-13 (9/98)
01	B01	Benzo(g,h,i)perylene	7.00E-06	3.06E-05	AP-42, Table 1.1-13 (9/98)
01	B01	Benzyl chloride	1.81E-01	7.94E-01	AP-42, Table 1.1-14 (9/98)
01	B01	Biphenyl	4.40E-04	1.93E-03	AP-42, Table 1.1-13 (9/98)
01	B01	Bis(2-ethylhexyl)phthalate	1.89E-02	8.28E-02	AP-42, Table 1.1-14 (9/98)
01	B01	Bromoform	1.01E-02	4.43E-02	AP-42, Table 1.1-14 (9/98)
01	B01	Carbon disulfide	3.37E-02	1.48E-01	AP-42, Table 1.1-14 (9/98)
01	B01	Chlorobenzene	5.70E-03	2.50E-02	AP-42, Table 1.1-14 (9/98)
01	B01	Chloroform	1.53E-02	6.70E-02	AP-42, Table 1.1-14 (9/98)
01	B01	Chrysene	2.59E-05	1.13E-04	AP-42, Table 1.1-13 (9/98)
01	B01	Cumene	1.37E-03	6.01E-03	AP-42, Table 1.1-14 (9/98)
01	B01	Cyanide [Compounds]	6.48E-01	2.84E+00	AP-42, Table 1.1-14 (9/98)
01	B01	Dimethyl sulfate	1.24E-02	5.45E-02	AP-42, Table 1.1-14 (9/98)
01	B01	Ethyl benzene	2.44E-02	1.07E-01	AP-42, Table 1.1-14 (9/98)
01	B01	Ethyl chloride	1.09E-02	4.77E-02	AP-42, Table 1.1-14 (9/98)
01	B01	Ethylene dibromide	3.11E-04	1.36E-03	AP-42, Table 1.1-14 (9/98)
01	B01	Ethylene dichloride	1.04E-02	4.54E-02	AP-42, Table 1.1-14 (9/98)
01	B01	Fluoranthene	1.84E-04	8.06E-04	AP-42, Table 1.1-13 (9/98)
01	B01	Fluorene	2.36E-04	1.03E-03	AP-42, Table 1.1-13 (9/98)
01	B01	Formaldehyde	6.22E-02	2.72E-01	AP-42, Table 1.1-14 (9/98)
01	B01	Hexane	1.74E-02	4.60E-02	AP-42, Table 1.1-14 (9/98)



# STATEMENT OF BASIS

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## BAQ Engineering Services Division

2600 Bull Street, Columbia, SC 29201

Phone: 803-898-4123 Fax: 803-898-4079

**Company Name:** Santee Cooper Pee Dee Generating Station  
**Permit Number:** 1040-0113-CA

**Permit Writer:** Joe Eller  
**Date:** December 16, 2008

### CONTROLLED POTENTIAL EMISSIONS

EU ID	EQ ID	Pollutant	lb/hr	TPY @ 8760 or specified hours	Method for Estimating Emissions
01	B01	Hydrochloric acid	1.55E+01	6.81E+01	AP-42, Table 1.1-15 (9/98)
01	B01	Hydrogen fluoride	1.94E+00	8.51E+00	AP-42, Table 1.1-15 (9/98)
01	B01	Indeno(1,2,3-cd)pyrene	1.58E-05	6.92E-05	AP-42, Table 1.1-13 (9/98)
01	B01	Isophorone	1.50E-01	6.58E-01	AP-42, Table 1.1-14 (9/98)
01	B01	Methyl bromide	4.15E-02	1.82E-01	AP-42, Table 1.1-14 (9/98)
01	B01	Methyl chloride	1.37E-01	6.01E-01	AP-42, Table 1.1-14 (9/98)
01	B01	Methyl hydrazine	4.40E-02	1.93E-01	AP-42, Table 1.1-14 (9/98)
01	B01	Methyl methacrylate	5.18E-03	2.27E-02	AP-42, Table 1.1-14 (9/98)
01	B01	Methyl terp butyl ether	9.07E-03	3.97E-02	AP-42, Table 1.1-14 (9/98)
01	B01	Methylene chloride	7.51E-02	3.29E-01	AP-42, Table 1.1-14 (9/98)
01	B01	Naphthalene	3.37E-03	1.48E-02	AP-42, Table 1.1-13 (9/98)
01	B01	PCDD/PCDF (total)	4.56E-07	2.00E-06	AP-42, Table 1.1-12 (9/98)
01	B01	Phenanthrene	7.00E-04	3.06E-03	AP-42, Table 1.1-13 (9/98)
01	B01	Phenol	4.15E-03	1.82E-02	AP-42, Table 1.1-14 (9/98)
01	B01	Propionaldehyde	9.85E-02	4.31E-01	AP-42, Table 1.1-14 (9/98)
01	B01	Pyrene	8.55E-05	3.74E-04	AP-42, Table 1.1-13 (9/98)
01	B01	Styrene	6.48E-03	2.84E-02	AP-42, Table 1.1-14 (9/98)
01	B01	Tetrachloroethylene	1.11E-02	4.88E-02	AP-42, Table 1.1-14 (9/98)
01	B01	Toluene	6.22E-02	2.72E-01	AP-42, Table 1.1-14 (9/98)
01	B01	Vinyl acetate	1.97E-03	8.62E-03	AP-42, Table 1.1-14 (9/98)
01	B01	Xylenes	9.59E-03	4.20E-02	AP-42, Table 1.1-14 (9/98)
01	B01	Antimony [Compounds]	4.66E-03	2.04E-02	AP-42, Table 1.1-18 (9/98)
01	B01	Arsenic [Compounds]	1.06E-01	4.65E-01	AP-42, Table 1.1-18 (9/98)
01	B01	Beryllium [Compounds]	5.44E-03	2.38E-02	AP-42, Table 1.1-18 (9/98)
01	B01	Cadmium [Compounds]	1.32E-02	5.79E-02	AP-42, Table 1.1-18 (9/98)
01	B01	Chromium [Compounds]	8.78E-02	3.85E-01	AP-42, Table 1.1-18 (9/98)
01	B01	Cobalt [Compounds]	2.59E-02	1.16E-01	AP-42, Table 1.1-18 (9/98)
01	B01	Manganese [Compounds]	1.27E-01	5.56E-01	AP-42, Table 1.1-18 (9/98)
01	B01	Mercury [Compounds]	6.60E-03	2.89E-02	case-by-case MACT
01	B01	Nickel [Compounds]	7.25E-02	3.18E-01	AP-42, Table 1.1-18 (9/98)
01	B01	Selenium [Compounds]	3.37E-01	1.48E+00	AP-42, Table 1.1-18 (9/98)



# STATEMENT OF BASIS

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## BAQ Engineering Services Division

2600 Bull Street, Columbia, SC 29201

Phone: 803-898-4123 Fax: 803-898-4079

**Company Name:**

Santee Cooper Pee Dee Generating Station

**Permit Writer:**

Joe Eller

**Permit Number:**

1040-0113-CA

**Date:**

December 16, 2008

### CONTROLLED POTENTIAL EMISSIONS

EU ID	EQ ID	Pollutant	lb/hr	TPY @ 8760 or specified hours	Method for Estimating Emissions
02	B02	PM (total)	102.6	449.39	BACT determination of 0.018 lb/10 <sup>6</sup> Btu x 5700 x 10 <sup>6</sup> Btu/hr
02	B02	PM (filterable)	85.5	374.49	BACT determination of 0.015 lb/10 <sup>6</sup> Btu x 5700 x 10 <sup>6</sup> Btu/hr
02	B02	PM <sub>10</sub> (total)	102.6	449.39	BACT determination of 0.018 lb/10 <sup>6</sup> Btu x 5700 x 10 <sup>6</sup> Btu/hr
02	B02	PM <sub>10</sub> (filterable)	68.4	299.59	BACT determination of 0.012 lb/10 <sup>6</sup> Btu x 5700 x 10 <sup>6</sup> Btu/hr (note 1)
02	B02	SO <sub>2</sub>	798.0	2995.9	BACT determination of 0.14 lb/10 <sup>6</sup> Btu x 5700 x 10 <sup>6</sup> Btu/hr (0.12 daily and annual basis)
02	B02	NO <sub>x</sub>	399.0	1747.6	BACT determination of 0.07 lb/10 <sup>6</sup> Btu x 5700 x 10 <sup>6</sup> Btu/hr
02	B02	CO	855.0 *	3744.9 *	BACT determination of 0.15 lb/10 <sup>6</sup> Btu x 5700 x 10 <sup>6</sup> Btu/hr
02	B02	VOC	13.68 *	59.92 *	BACT determination of 0.0024 lb/10 <sup>6</sup> Btu x 5700 x 10 <sup>6</sup> Btu/hr
02	B02	Lead	0.11	0.48	BACT determination (AP-42) of 1.91E-05 lb/10 <sup>6</sup> Btu x 5700 x 10 <sup>6</sup> Btu/hr
02	B02	Sulfuric Acid	28.5	125	BACT determination of 0.005 lb/10 <sup>6</sup> Btu x 5700 x 10 <sup>6</sup> Btu/hr
02	B02	1,1,[2]-Trichloroethane	5.18E-03	2.27E-02	AP-42, Table 1.1-14 (9/98)
02	B02	2,4-Dinitrotoluene	7.25E-05	3.18E-04	AP-42, Table 1.1-14 (9/98)
02	B02	2-Chloroacetophenone	1.81E-03	7.95E-03	AP-42, Table 1.1-14 (9/98)
02	B02	5-Methyl chrysene	5.70E-06	2.50E-05	AP-42, Table 1.1-13 (9/98)
02	B02	Acenaphthene	1.32E-04	5.79E-04	AP-42, Table 1.1-13 (9/98)
02	B02	Acenaphthylene	6.48E-05	2.84E-04	AP-42, Table 1.1-13 (9/98)
02	B02	Acetaldehyde	1.48E-01	6.47E-01	AP-42, Table 1.1-14 (9/98)
02	B02	Acetophenone	3.89E-03	1.70E-02	AP-42, Table 1.1-14 (9/98)
02	B02	Acrolein	7.51E-02	3.29E-01	AP-42, Table 1.1-14 (9/98)
02	B02	Anthracene	5.44E-05	2.38E-04	AP-42, Table 1.1-13 (9/98)
02	B02	Benzene	3.37E-01	1.48E+00	AP-42, Table 1.1-14 (9/98)
02	B02	Benzo(a)anthracene	2.07E-05	9.08E-05	AP-42, Table 1.1-13 (9/98)
02	B02	Benzo(a)pyrene	9.85E-06	4.31E-05	AP-42, Table 1.1-13 (9/98)
02	B02	Benzo(b,j,k)fluoranthene	2.85E-05	1.25E-04	AP-42, Table 1.1-13 (9/98)
02	B02	Benzo(g,h,i)perylene	7.00E-06	3.06E-05	AP-42, Table 1.1-13 (9/98)
02	B02	Benzyl chloride	1.81E-01	7.94E-01	AP-42, Table 1.1-14 (9/98)
02	B02	Biphenyl	4.40E-04	1.93E-03	AP-42, Table 1.1-13 (9/98)



# STATEMENT OF BASIS

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## BAQ Engineering Services Division

2600 Bull Street, Columbia, SC 29201

Phone: 803-898-4123 Fax: 803-898-4079

**Company Name:** Santee Cooper Pee Dee Generating Station  
**Permit Number:** 1040-0113-CA

**Permit Writer:** Joe Eller  
**Date:** December 16, 2008

### CONTROLLED POTENTIAL EMISSIONS

EU ID	EQ ID	Pollutant	lb/hr	TPY @ 8760 or specified hours	Method for Estimating Emissions
02	B02	Bis(2-ethylhexyl)phthalate	1.89E-02	8.28E-02	AP-42, Table 1.1-14 (9/98)
02	B02	Bromoform	1.01E-02	4.43E-02	AP-42, Table 1.1-14 (9/98)
02	B02	Carbon disulfide	3.37E-02	1.48E-01	AP-42, Table 1.1-14 (9/98)
02	B02	Chlorobenzene	5.70E-03	2.50E-02	AP-42, Table 1.1-14 (9/98)
02	B02	Chloroform	1.53E-02	6.70E-02	AP-42, Table 1.1-14 (9/98)
02	B02	Chrysene	2.59E-05	1.13E-04	AP-42, Table 1.1-13 (9/98)
02	B02	Cumene	1.37E-03	6.01E-03	AP-42, Table 1.1-14 (9/98)
02	B02	Cyanide [Compounds]	6.48E-01	2.84E+00	AP-42, Table 1.1-14 (9/98)
02	B02	Dimethyl sulfate	1.24E-02	5.45E-02	AP-42, Table 1.1-14 (9/98)
02	B02	Ethyl benzene	2.44E-02	1.07E-01	AP-42, Table 1.1-14 (9/98)
02	B02	Ethyl chloride	1.09E-02	4.77E-02	AP-42, Table 1.1-14 (9/98)
02	B02	Ethylene dibromide	3.11E-04	1.36E-03	AP-42, Table 1.1-14 (9/98)
02	B02	Ethylene dichloride	1.04E-02	4.54E-02	AP-42, Table 1.1-14 (9/98)
02	B02	Fluoranthene	1.84E-04	8.06E-04	AP-42, Table 1.1-13 (9/98)
02	B02	Fluorene	2.36E-04	1.03E-03	AP-42, Table 1.1-13 (9/98)
02	B02	Formaldehyde	6.22E-02	2.72E-01	AP-42, Table 1.1-14 (9/98)
02	B02	Hexane	1.74E-02	4.60E-02	AP-42, Table 1.1-14 (9/98)
02	B02	Hydrochloric acid	1.55E+01	6.81E+01	AP-42, Table 1.1-15 (9/98)
02	B02	Hydrogen fluoride	1.94E+00	8.51E+00	AP-42, Table 1.1-15 (9/98)
02	B02	Indeno(1,2,3-cd)pyrene	1.58E-05	6.92E-05	AP-42, Table 1.1-13 (9/98)
02	B02	Isophorone	1.50E-01	6.58E-01	AP-42, Table 1.1-14 (9/98)
02	B02	Methyl bromide	4.15E-02	1.82E-01	AP-42, Table 1.1-14 (9/98)
02	B02	Methyl chloride	1.37E-01	6.01E-01	AP-42, Table 1.1-14 (9/98)
02	B02	Methyl hydrazine	4.40E-02	1.93E-01	AP-42, Table 1.1-14 (9/98)
02	B02	Methyl methacrylate	5.18E-03	2.27E-02	AP-42, Table 1.1-14 (9/98)
02	B02	Methyl terp butyl ether	9.07E-03	3.97E-02	AP-42, Table 1.1-14 (9/98)
02	B02	Methylene chloride	7.51E-02	3.29E-01	AP-42, Table 1.1-14 (9/98)
02	B02	Naphthalene	3.37E-03	1.48E-02	AP-42, Table 1.1-13 (9/98)
02	B02	PCDD/PCDF (total)	4.56E-07	2.00E-06	AP-42, Table 1.1-12 (9/98)
02	B02	Phenanthrene	7.00E-04	3.06E-03	AP-42, Table 1.1-13 (9/98)
02	B02	Phenol	4.15E-03	1.82E-02	AP-42, Table 1.1-14 (9/98)
02	B02	Propionaldehyde	9.85E-02	4.31E-01	AP-42, Table 1.1-14 (9/98)
02	B02	Pyrene	8.55E-05	3.74E-04	AP-42, Table 1.1-13 (9/98)
02	B02	Styrene	6.48E-03	2.84E-02	AP-42, Table 1.1-14 (9/98)



# STATEMENT OF BASIS

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## BAQ Engineering Services Division

2600 Bull Street, Columbia, SC 29201

Phone: 803-898-4123 Fax: 803-898-4079

**Company Name:** Santee Cooper Pee Dee Generating Station  
**Permit Number:** 1040-0113-CA

**Permit Writer:** Joe Eller  
**Date:** December 16, 2008

### CONTROLLED POTENTIAL EMISSIONS

EU ID	EQ ID	Pollutant	lb/hr	TPY @ 8760 or specified hours	Method for Estimating Emissions
02	B02	Tetrachloroethylene	1.11E-02	4.88E-02	AP-42, Table 1.1-14 (9/98)
02	B02	Toluene	6.22E-02	2.72E-01	AP-42, Table 1.1-14 (9/98)
02	B02	Vinyl acetate	1.97E-03	8.62E-03	AP-42, Table 1.1-14 (9/98)
02	B02	Xylenes	9.59E-03	4.20E-02	AP-42, Table 1.1-14 (9/98)
02	B02	Antimony [Compounds]	4.66E-03	2.04E-02	AP-42, Table 1.1-18 (9/98)
02	B02	Arsenic [Compounds]	1.06E-01	4.65E-01	AP-42, Table 1.1-18 (9/98)
02	B02	Beryllium [Compounds]	5.44E-03	2.38E-02	AP-42, Table 1.1-18 (9/98)
02	B02	Cadmium [Compounds]	1.32E-02	5.79E-02	AP-42, Table 1.1-18 (9/98)
02	B02	Chromium [Compounds]	8.78E-02	3.85E-01	AP-42, Table 1.1-18 (9/98)
02	B02	Cobalt [Compounds]	2.59E-02	1.16E-01	AP-42, Table 1.1-18 (9/98)
02	B02	Manganese [Compounds]	1.27E-01	5.56E-01	AP-42, Table 1.1-18 (9/98)
02	B02	Mercury [Compounds]	6.60E-03	2.89E-02	case-by-case MACT
02	B02	Nickel [Compounds]	7.25E-02	3.18E-01	AP-42, Table 1.1-18 (9/98)
02	B02	Selenium [Compounds]	3.37E-01	1.48E+00	AP-42, Table 1.1-18 (9/98)
Ex	D01	PM	1.41 *	0.36 *	AP-42, Table 3.4-1 (14.08 x 10 <sup>6</sup> Btu/hr x 0.1 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	D01	PM <sub>10</sub>	1.41 *	0.36 *	AP-42, Table 3.4-1 (14.08 x 10 <sup>6</sup> Btu/hr x 0.1 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	D01	SO <sub>2</sub>	0.71 *	0.18 *	AP-42, Table 3.4-1 (14.08 x 10 <sup>6</sup> Btu/hr x 0.0505 lb/10 <sup>6</sup> Btu, 0.05% sulfur fuel), 500 hrs/yr
Ex	D01	NO <sub>x</sub>	45.06 *	11.26 *	AP-42, Table 3.4-1 (14.08 x 10 <sup>6</sup> Btu/hr x 3.2 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	D01	CO	11.97 *	3.00 *	AP-42, Table 3.4-1 (14.08 x 10 <sup>6</sup> Btu/hr x 0.85 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	D01	VOC	1.27 *	0.32 *	AP-42, Table 3.4-1 (14.08 x 10 <sup>6</sup> Btu/hr x 0.09 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	D02	PM	1.41 *	0.36 *	AP-42, Table 3.4-1 (14.08 x 10 <sup>6</sup> Btu/hr x 0.1 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	D02	PM <sub>10</sub>	1.41 *	0.36 *	AP-42, Table 3.4-1 (14.08 x 10 <sup>6</sup> Btu/hr x 0.1 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	D02	SO <sub>2</sub>	0.71 *	0.18 *	AP-42, Table 3.4-1 (14.08 x 10 <sup>6</sup> Btu/hr x 0.0505 lb/10 <sup>6</sup> Btu, 0.05% sulfur fuel), 500 hrs/yr



# STATEMENT OF BASIS

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## BAQ Engineering Services Division

2600 Bull Street, Columbia, SC 29201

Phone: 803-898-4123 Fax: 803-898-4079

**Company Name:** Santee Cooper Pee Dee Generating Station  
**Permit Number:** 1040-0113-CA

**Permit Writer:** Joe Eller  
**Date:** December 16, 2008

### CONTROLLED POTENTIAL EMISSIONS

EU ID	EQ ID	Pollutant	lb/hr	TPY @ 8760 or specified hours	Method for Estimating Emissions
Ex	D02	NO <sub>x</sub>	45.06 *	11.26 *	AP-42, Table 3.4-1 (14.08 x 10 <sup>6</sup> Btu/hr x 3.2 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	D02	CO	11.97 *	3.00 *	AP-42, Table 3.4-1 (14.08 x 10 <sup>6</sup> Btu/hr x 0.85 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	D02	VOC	1.27 *	0.32 *	AP-42, Table 3.4-1 (14.08 x 10 <sup>6</sup> Btu/hr x 0.09 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	F01	PM	0.99 *	0.24 *	AP-42, Table 3.3-1 (3.2 x 10 <sup>6</sup> Btu/hr x 0.31 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	F01	PM <sub>10</sub>	0.99 *	0.24 *	AP-42, Table 3.3-1 (3.2 x 10 <sup>6</sup> Btu/hr x 0.31 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	F01	SO <sub>2</sub>	0.93 *	0.23 *	AP-42, Table 3.3-1 (3.2 x 10 <sup>6</sup> Btu/hr x 0.29 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	F01	NO <sub>x</sub>	14.11 *	3.52 *	AP-42, Table 3.3-1 (3.2 x 10 <sup>6</sup> Btu/hr x 4.41 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	F01	CO	3.04 *	0.76 *	AP-42, Table 3.3-1 (3.2 x 10 <sup>6</sup> Btu/hr x 0.95 lb/10 <sup>6</sup> Btu), 500 hrs/yr
Ex	F01	VOC	1.15 *	0.28 *	AP-42, Table 3.3-1 (3.2 x 10 <sup>6</sup> Btu/hr x 0.36 lb/10 <sup>6</sup> Btu), 500 hrs/yr
03	MT01	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.02/0.01/0.00124	0.03/0.01/0.00188	AP-42, Section 13.2.4, 99% control
03	MT02	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.02/0.01/0.00124	0.03/0.01/0.00188	AP-42, Section 13.2.4, 99% control
03	MT03	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	1.73/0.82/0.124 *	2.62/1.24/0.188 *	AP-42, Section 13.2.4
03	MT04	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.02/0.01/0.00124	0.03/0.01/0.00188	AP-42, Section 13.2.4, 99% control
03	MT05	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.02/0.01/0.00124	0.03/0.01/0.00188	AP-42, Section 13.2.4, 99% control
03	MT08	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	1.73/0.82/0.124 *	2.62/1.24/0.188 *	AP-42, Section 13.2.4
03	MT09	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	1.73/0.82/0.124 *	2.62/1.24/0.188 *	AP-42, Section 13.2.4
03	MT10	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.02/0.01/0.00124	0.03/0.01/0.00188	AP-42, Section 13.2.4, 99% control
03	MT11	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.02/0.01/0.00124	0.03/0.01/0.00188	AP-42, Section 13.2.4, 99% control
03	MT12 S01-06 S07-12	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.21/0.10/0.0149	0.31/0.15/0.0226	AP-42, Section 13.2.4, 99% control
03	SP03	PM/PM <sub>10</sub>	1.05/0.63 *	4.61/2.77 *	EPA-450/3-88-008
03	Total	PM	6.57	12.96	-
04	MT14	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	1.73/0.82/0.12 *	0.79/0.37/0.06 *	AP-42, Section 13.2.4
04	MT15	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.02/0.0082/0.00124	0.01/0.00372/ 0.000564	AP-42, Section 13.2.4, 99% control
04	SP04	PM/PM <sub>10</sub>	0.76/0.45 *	3.32/1.99 *	EPA-450/3-88-008
04	Total	PM	2.51	4.12	-
05	CR01	PM/PM <sub>10</sub>	0.59/0.23	0.89/0.34	AP-42, Table 11.19.2-2, 99% control
06	MT20	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.13/0.06/0.01 *	0.25/0.12/0.02 *	AP-42, Section 13.2.4
06	MT21	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.13/0.06/0.01 *	0.25/0.12/0.02 *	AP-42, Section 13.2.4
06	MT22	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.13/0.06/0.01 *	0.25/0.12/0.02 *	AP-42, Section 13.2.4
06	MT23	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.00132/0.000625 / 0.0000946	0.00247/0.00117/ 0.000177	AP-42, Section 13.2.4, 99% control
06	MT24	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.00132/0.000625 / 0.0000946	0.00247/0.00117/ 0.000177	AP-42, Section 13.2.4, 99% control
06	MT25	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.00132/0.000625 / 0.0000946	0.00247/0.00117/ 0.000177	AP-42, Section 13.2.4, 99% control
06	MT26	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.13/0.06/0.01 *	0.25/0.12/0.02 *	AP-42, Section 13.2.4





# STATEMENT OF BASIS

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## BAQ Engineering Services Division

2600 Bull Street, Columbia, SC 29201

Phone: 803-898-4123 Fax: 803-898-4079

**Company Name:** Santee Cooper Pee Dee Generating Station  
**Permit Number:** 1040-0113-CA

**Permit Writer:** Joe Eller  
**Date:** December 16, 2008

### CONTROLLED POTENTIAL EMISSIONS

EU ID	EQ ID	Pollutant	lb/hr	TPY @ 8760 or specified hours	Method for Estimating Emissions
06	MT27	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.13/0.06/0.01 *	0.25/0.12/0.02 *	AP-42, Section 13.2.4
06	MT28	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.00132/0.000625 / 0.0000946	0.00247/0.00117/ 0.000177	AP-42, Section 13.2.4, 99% control
06	MT29	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.00132/0.000625 / 0.0000946	0.00247/0.00117/ 0.000177	AP-42, Section 13.2.4, 99% control
06	MT30	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.00132/0.000625 / 0.0000946	0.00247/0.00117/ 0.000177	AP-42, Section 13.2.4, 99% control
06	SP01	PM/PM <sub>10</sub>	0.178/0.107 *	0.778/0.467 *	Document EPA-450/3-88-008
06	PM	Total	0.836/0.411/0.158	2.043/1.074/0.568	-
07	CR02	PM/PM <sub>10</sub>	0.05/0.02	0.09/0.04	AP-42, Table 11.19.2-2, 99% control
08	MT34	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.254/0.12/0.018 *	0.425/0.201/ 0.0305 *	AP-42, Section 13.2.4
08	MT35	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.254/0.12/0.018 *	0.425/0.201/ 0.0305 *	AP-42, Section 13.2.4
08	MT36	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.254/0.12/0.018 *	0.425/0.201/ 0.0305 *	AP-42, Section 13.2.4
08	SP02	PM/PM <sub>10</sub>	0.27/0.16 *	1.19/0.72 *	EPA-450/3-88-008
08	SP05	PM/PM <sub>10</sub>	0.27/0.16 *	1.19/0.72 *	EPA-450/3-88-008
08	PM	Total	1.302	3.655	-
09	MT16	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.0108/0.00511/ 0.000773	0.00556/0.00263/ 0.000398	AP-42, Section 13.2.4, 99% control
09	MT17	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.0108/0.00511/ 0.000773	0.00556/0.00263/ 0.000398	AP-42, Section 13.2.4, 99% control
09	MT18	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.0108/0.00511/ 0.000773	0.00556/0.00263/ 0.000398	AP-42, Section 13.2.4, 99% control
09	MT19	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.0108/0.00511/0.000773	0.00556/0.00263/ 0.000398	AP-42, Section 13.2.4, 99% control
09	MT31	PM	0	0	No emissions due to material being wet
09	MT32	PM	0	0	No emissions due to material being wet
09	MT33	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.00142/0.000674/ 0.000102	0.000773/0.000347/ 0.0000525	AP-42, Section 13.2.4, 99% control
09	PM	Total	0.0446	0.0230	-
10	MT37	PM	0	0	No emissions due to material being wet
11	CT01	PM	0.466 *	2.04 *	Technical Report EPA 600 7-79-251a, Nov. 1979
11	CT02	PM	0.466 *	2.04 *	Technical Report EPA 600 7-79-251a, Nov. 1979
Ex	T01	VOC	0.0205 *	0.09 *	Tanks 4.0
Ex	T02	VOC	0.002 *	0.01 *	Tanks 4.0
Ex	T03	VOC	0.002 *	0.01 *	Tanks 4.0

\* Rates listed assume emissions are uncontrolled except for limited hours.

Note 1: PM/PM<sub>10</sub> emissions include both filterable and condensable components. PM/PM<sub>10</sub> filterable only emissions result in a lower limit (0.015/0.012 lb/million Btu).

Note 2: Emissions have been updated to reflect information received February 12, 2007. Where PM<sub>2.5</sub> or PM<sub>10</sub> emissions are not listed, they are assumed the same as the larger subset. Also, emergency exempt equipment emissions are based on 500 hours/year operation rather than 250 hours/year due to change in SC regulations effective 5/25/07.

### FACILITY WIDE POTENTIAL EMISSIONS



## STATEMENT OF BASIS

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### BAQ Engineering Services Division

2600 Bull Street, Columbia, SC 29201

Phone: 803-898-4123 Fax: 803-898-4079

**Company Name:** Santee Cooper Pee Dee Generating Station  
**Permit Number:** 1040-0113-CA

**Permit Writer:** Joe Eller  
**Date:** December 16, 2008

Pollutant	Uncontrolled Emissions		Controlled Emissions	
	lb/hr	TPY @ 8760 hours	lb/hr	TPY @ 8760 hours
PM (total)	82,200	359,688	222	927
PM (filterable)	68,520	299,670	188	778
PM <sub>10</sub> (total)	82,135	359,587	216	916
PM <sub>10</sub> (filterable)	54,775	239,751	148	617
PM <sub>2.5</sub>	82,115	359,563	213	912
SO <sub>2</sub>	68,402	299,592	1370	5992
NO <sub>x</sub>	3,180	13,508	902	3521
CO	1,737	7,497	1737	7497
VOC	31	121	31	121
Lead	-	-	0.22	0.96
Fluorides	-	-	3.88	17
Sulfuric Acid Mist	-	-	57	250
HCl	-	-	31	136
Total HAPS (incl HF and HCl)	-	-	42	182

Note: Facility-wide emissions includes emissions from exempted sources at the facility.

Note: Emissions have been updated to reflect information received February 12, 2007. Where PM<sub>2.5</sub> or PM<sub>10</sub> emissions are not listed, they are assumed the same as the larger subset.

## REGULATORY APPLICABILITY, EMISSION LIMITATIONS, MONITORING AND REPORTING REQUIREMENTS

### General Requirements

The permit contains requirements regarding operating practices, notifications, record keeping, and other concerns relating to emissions. These requirements include notification for changes to permitted sources or conditions to determine if additional permitting is necessary before making those changes (SC Regulation 61-62.1, Section II). The facility should refer to the permit conditions, as well as state and federal regulations, before making changes to permitted sources or adding new sources of emissions.

Based on the facility's potential emissions exceeding major source levels for several pollutants, the facility is subject to NSR PSD review for all pollutants that equal or exceed the significant emissions increase levels. The PSD limits and requirements apply to PM, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO, VOC, lead, fluorides, and sulfuric acid mist and are described in a separate Preliminary Determination document with limits listed in the following equipment sections.

Also, based on the facility's potential HAP emissions exceeding major source levels (> 10 tons/year individual HAP and > 25 tons/year for combined HAPs) and vacatur of the CAMR regulation, the facility is subject to case-by-case MACT determination. The MACT limits and requirements apply to all HAPs (or surrogates) and are described in a separate Notice of MACT Approval document with limits listed in the following equipment sections.

### Boiler B01 (and Boiler B02 – see note in next section for B02)

**Fuel:** This boiler is restricted to burning either eastern U.S. coal, eastern U.S. coal blended with up to 30% petcoke (e.g., 3 pounds of petcoke with 7 pounds of coal), natural gas, or ultra low sulfur fuel oil (sulfur content of 0.015% or less). In the event ultra low sulfur fuel oil is not commercially available, the facility shall be permitted to burn #2 fuel oil (sulfur content of 0.05% or less). The facility specified the use of #2 fuel oil in the application; however, in review of other recent PSD applications for utilities the fuel oil specified is ultra low sulfur fuel oil, if commercially available. For BACT purposes, this facility should use the same type fuel, and is being specified in the permit.

**SC Standard No. 1:** This boiler is subject to SC Standard No. 1 with imposed limits of 20% opacity, 0.234 lb/million Btu for PM ( $E = 57.84P^{0.637}$  formula result at maximum capacity), and 3.5 lb/million Btu for SO<sub>2</sub>. At maximum operation, the total PM emission limit equates to 1,334 lb/hr (vs. 41,040 lb/hr uncontrolled and 102.6 lb/hr controlled); and the SO<sub>2</sub> emission limit equates to 19,950 lb/hr (vs. 34,200 lb/hr uncontrolled and 684 lb/hr or 798 lb/hr controlled). The limits are based on 6-minute rolling average for opacity, 3-hour block average for PM, and 24-hour block average for SO<sub>2</sub>. Exceptions to the opacity limit are that 60% is allowed for soot



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### BAQ Engineering Services Division

2600 Bull Street, Columbia, SC 29201

Phone: 803-898-4123 Fax: 803-898-4079

**Company Name:** Santee Cooper Pee Dee Generating Station  
**Permit Number:** 1040-0113-CA

**Permit Writer:** Joe Eller  
**Date:** December 16, 2008

blowing (maximum of 6 minutes per hour and 24 minutes per 24 hours). These limits do not apply during startup and shutdown. Based on the size of the boilers, continuous opacity monitors (COMS) must be installed and operated in conformance with 40CFR60 Performance Specification 1. COM data must be submitted quarterly to the Bureau. The boiler must also be tested for compliance with PM limits every two years or as required by permit conditions. This boiler, as established by the Bureau in permit conditions, shall conduct a PM source test once every 4 quarters unless the test result is greater than 80% of the permit limit, in which case the facility shall conduct a PM source test every 2 quarters until each of 3 consecutive test results show emissions at or below 80% of the permit limit, upon which the facility may resume testing every 4 quarters. Testing and reporting shall follow requirements of Section IV of SC Regulation 61-62.1. Concurrently with PM testing, the facility shall also conduct a Method 9 opacity test. The facility will demonstrate compliance with the SO<sub>2</sub> emission limit by CEMS reporting.

Federal Regulation 40CFR60 Subparts A and Da (Revised June 9, 2006): This boiler is also subject to Federal NSPS Subpart Da that imposes an opacity limit of 20%, PM filterable limits of 0.015 lb/million Btu heat input or 0.14 lb/MWh gross electrical output or, alternatively, 0.03 lb/million Btu and 99.9% removal efficiency, SO<sub>2</sub> limits of 1.4 lb/MWh or 95% removal, and NO<sub>x</sub> limits of 1.0 lb/MWh or 0.6 lb/million Btu and 60% removal. The opacity limit includes an allowance for an elevated limit of 27% for one 6-minute period per hour and 4 6-minute periods per 24 hours, and the opacity limit does not apply during startups, shutdowns, or malfunctions. Should the facility use a PM CEMS to show compliance with the PM limit, the opacity limit would not apply and a COMS would not be required.. The opacity limit is based on 6-minute block averages taken during a 1-hour period, the PM limit is based on a 3-hour block average, the SO<sub>2</sub> limit is based on a 30-day rolling average, and the NO<sub>x</sub> limit is based on a 30-day rolling average. Compliance with the opacity limit is by Method 9. Compliance with the PM limit is by CEMS (3-hr block average) or by biennial source testing (average of (3) 1-hour tests). Compliance with the SO<sub>2</sub> and NO<sub>x</sub> limits is by CEMS (30-day rolling averages). Compliance with the mercury limit is use of CEMS based on 365-day averaging period.

The above opacity limits for Standard No. 1 and Subpart Da are combined to reflect the most stringent portions of each limit as shown in the tabulated table following this listing of applicable regulations. To meet the limits concurrently, excursions above the 20% level are allowed for only (1) 6-minute period per hour and (4) 6-minute periods per day up to a maximum of 27% and only for soot-blowing. The limit does not apply during startups and shutdowns.

SC Regulation 61-62.60- Subpart Da. While the federal NSPS Subpart Da has been vacated, South Carolina's NSPS standards (incorporated by reference) remain intact. Until the state repeals Subpart Da, Santee Cooper must demonstrate compliance with the requirements. Da specifies a mercury emission limit of 0.020 lb/GWh (0.0132 lb/hr at 660 MW) for boilers that burn only bituminous coal and requires the use of a CEMS for determining compliance, based on a 12-month rolling average.

SC Standard No. 7: This boiler is also subject to SC Standard No. 7 based on BACT requirements as a PSD source. The BACT review has established limits of 0.018 lb/million Btu for total PM, 0.015 lb/million Btu for filterable PM, 0.018 lb/million Btu for total PM<sub>10</sub>, 0.012 lb/million Btu for filterable PM<sub>10</sub>, 0.12 lb/million Btu (30-day average) and for SO<sub>2</sub>, 0.07 lb/million Btu (30-day average) and for NO<sub>x</sub>, 0.15 lb/million Btu for CO, 0.0024 lb/million Btu for VOC,  $1.91 \times 10^{-5}$  lb/million Btu for lead, 0.005 lb/million Btu for sulfuric acid, and  $3.41 \times 10^{-4}$  lb/million Btu for fluorides. The BACT limit cannot be less stringent than other federal requirements and in the case of PM, Subpart Da establishes a filterable PM limit of 0.015 lb/million Btu. The Subpart Da limit specifies Method 5 testing which is for filterable only; therefore the BACT limit must be set at 0.015 lb/million Btu for filterable with the 0.018 lb/million Btu representing total PM including condensable particulate. The averaging period for each of these limits is 3-hour block average unless otherwise specified. See the Preliminary Determination document for details describing the BACT limits. Compliance with SC Standard No. 7 limits requires initial source testing and any repeat source testing as determined necessary by the Bureau. The Bureau has determined that initial source testing is sufficient for demonstrating compliance with the limits, except for SO<sub>2</sub> and NO<sub>x</sub> limits that can be demonstrated by rolling averages from CEMS data.

The application mentions PM<sub>2.5</sub> as a regulated pollutant; however, there are no defined requirements in place except for relying on compliance with PM<sub>10</sub> requirements as surrogate. EPA may issue requirements specific to PM<sub>2.5</sub> in the near future and if those requirements are in place before these new units begin operation, the Bureau may choose to reopen the permit, if appropriate, to include those additional PM<sub>2.5</sub> requirements.

SC Regulation 61-62.72: This boiler is subject to the Acid Rain Program. The facility must submit an acid rain permit application 2 years in advance of operation of the boiler, and must obtain allowances to cover the SO<sub>2</sub> and NO<sub>x</sub> emissions. The facility will install CEMS for reporting these emissions quarterly to EPA.



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2600 Bull Street, Columbia, SC 29201

Phone: 803-898-4123 Fax: 803-898-4079

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**Date:** December 16, 2008

**SC Regulation 61-62.96:** This boiler is subject to the Nitrogen Oxides (NO<sub>x</sub>) and Sulfur Dioxide (SO<sub>2</sub>) Budget Trading Program General Provisions. The facility must submit a NO<sub>x</sub> Budget Program application to cover the NO<sub>x</sub> emissions during each ozone season. If the unit does not operate prior to the effective date of the CAIR program, then the CAIR program will supersede the NO<sub>x</sub> Budget Program. The facility will install CEMS for reporting these emissions quarterly to EPA. Federal CAIR has been vacated, but no mandate has been issued; therefore federal CAIR is still intact. South Carolina has incorporated the CAIR requirements into the state regulations. Santee Cooper shall comply with the federal CAIR until a mandate is issued. Santee Cooper shall also comply with the state CAIR until it is repealed.

**Federal Clean Air Mercury Rule:** In the draft PSD permit, this boiler was deemed subject to the Clean Air Mercury Rule (CAMR). Subsequent to issuance of the draft PSD permit, the CAMR regulation was vacated. The facility will instead be subject to case-by-case MACT requirements (see that paragraph below). While the federal CAMR has been vacated, South Carolina has incorporated CAMR into the state regulations. Santee Cooper will comply with state CAMR until it is repealed.

**Case-by-case MACT:** This boiler will be subject to case-by-case MACT limits for hazardous air pollutants (HAPs). The case-by-case MACT analysis has established surrogate limits for certain combinations of HAPs. A limit of 8.0E-06 lb/MWh (maximum of 46.3 lb/yr) based on a 12-month rolling average applies to mercury. A limit of 0.012 lb/million BTU (3-hour average) applies to filterable PM<sub>10</sub> emissions as a surrogate for non-mercury metal HAPs. A limit of 0.12 lb/million BTU (30-day average) applies to SO<sub>2</sub> emissions as a surrogate for acid gas HAPs. A limit of 0.15 lb/million BTU (30-day average) applies to CO emissions as a surrogate for organic HAPs. Refer to the Notice of MACT Approval for additional details associated with these limits.

Tabulated requirements for Boiler 1 incorporating the above limits are:

(Note that 60/180 represents within 60 days of establishing full production but not less than 180 days after start of operation)

Equip ID	Pollutant/ Parameter	Limit	Basis	Averaging Period	Monitoring	Reporting
B01	Opacity	20%, except 27% for soot blowing only for one 6-minute period per hour, maximum of 4 6-minute periods per 24 hours (excludes startups and shutdowns)	SC Std. 1 and 40CFR60 Subpart Da	6-minute rolling average	Method 9 source test every 6 or 12 months (initial test within 60/180 days)	Within 30 days of test completion
B01	Opacity	N/A	SC Std. 1	6 minutes	COMS	Quarterly
B01	PM (filterable)	Lesser of 0.6 lb/million Btu or 57.84 P <sup>-0.637</sup>	SC Std. 1	3 hours (three 1-hour tests)	Method 5, 5b, or 17 source test every 6 or 12 months	Within 30 days of test completion
B01	PM (filterable)	0.015 lb/million Btu heat input, or 0.14 lb/ thousand MWh gross electrical output (alternate limit 0.03 lb/million Btu and 99.9% reduction efficiency)	NSPS Subpart Da	3 hours (three 1-hour tests)	Initial source test (within 60/180 days)	Within 60/180 days
B01	PM (filterable)	0.015 lb/million Btu	SC Std. 7	3 hours (three 1-hour tests)	Initial source test	Within 30 days of test completion
B01	PM (total)	0.018 lb/million Btu	SC Std. 7	3 hours (three 1-hour tests)	Initial source test	Within 30 days of test completion
B01	PM <sub>10</sub> (filterable)	0.012 lb/million Btu	SC Std. 7 SC 61-62.63	3 hours (three 1-hour tests)	Initial source test and CEMS	Within 30 days of test



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## BAQ Engineering Services Division

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**Permit Writer:**

Joe Eller

**Permit Number:**

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				and 30 days rolling avg		completion
B01	PM <sub>10</sub> (total)	0.018 lb/million Btu	SC Std. 7	3 hours (three 1-hour tests)	Initial source test	Within 30 days of test completion
B01	SO <sub>2</sub>	3.5 lb/million Btu	SC Std. 1	24 hours	CEMS	Quarterly
B01	SO <sub>2</sub>	1.4 lb/MWh or 95% reduction	NSPS Subpart Da	30 days rolling average	Initial source test (within 60/180 days)	Within 60/180 days
B01	SO <sub>2</sub>	0.12 lb/million Btu	SC Std. 7 SC 61-62.63	As approved and 30 days rolling av rolling	Initial source test and CEMS	Quarterly
B01	NO <sub>x</sub>	0.6 lb/million Btu and 65% reduction or 1.0 lb/MWh	NSPS Subpart Da	30 days rolling average	Initial source test (within 60/180 days)	Within 60/180 days
B01	NO <sub>x</sub>	0.07 lb/million Btu	SC Std. 7	30 days rolling average	CEMS	Quarterly
B01	CO	0.15 lb/million Btu	SC Std. 7 SC 61-62.63	3-hour block average and 30 days rolling avg	Initial source test and CEMS	Within 30 days of test completion
B01	VOC	0.0024 lb/million Btu	SC Std. 7	3-hour block average	Initial source test	Within 30 days of test completion
B01	Lead	1.91 x 10 <sup>-5</sup> lb/million Btu	SC Std. 7	3-hour block average	Initial source test	Within 30 days of test completion
B01	Fluorides	3.41 x 10 <sup>-4</sup> lb/million Btu	SC Std. 7	3-hour block average	Initial source test	Within 30 days of test completion
B01	Sulfuric Acid Mist	0.005 lb/10 <sup>6</sup> lb/Btu	SC Std. 7	3-hour block average	Initial source test	Within 30 days of test completion
B01	Mercury	20 x 10 <sup>-6</sup> lb/MWh	NSPS Subpart Da	12 month rolling average	Initial	Within 60/180 days
B01	PM <sub>10</sub> (filterable)	0.012 lb/million BTU	case-by-case MACT	3-hour block average	Initial, Annual	Within 30 days of test completion
B01	SO <sub>2</sub>	0.12 lb/million BTU	case-by-case MACT	30-day rolling average	CEMS (ongoing)  Initial and Annual Source Tests for HCl and HF	Quarterly  Within 30 days of test completion
B01	CO	0.15 lb/million BTU	case-by-case MACT	30-day rolling average	CEMS (ongoing)	Quarterly
B01	Mercury	8.0E-06 lb/MWh  46.3 lb/yr	case-by-case MACT	365-day rolling agerage 365-day	Initial, CEMS (ongoing)	Quarterly



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**Company Name:** Santee Cooper Pee Dee Generating Station  
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				rolling sum		
--	--	--	--	-------------	--	--

Note: The term "60/180 days" means the source test must be conducted within 60 days of achieving full production but no later than 180 days after start of operation.

**Compliance Assurance Monitoring (CAM):** Boiler B01 potential-to-emit exceeds Title V threshold limits (PTE >10/25 TPY HAP or >100 TPY criteria pollutants), after controls for PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, and CO. Since PM<sub>10</sub>, SO<sub>2</sub>, and NO<sub>x</sub> will have federally enforceable limits and control devices in use to meet those limits, CAM applies for those pollutants. CO is uncontrolled and therefore CAM does not apply. This boiler is a large PSEU and must comply with CAM within 180 days of startup of these new sources. With CEMS being used for reporting of PM, SO<sub>2</sub> and NO<sub>x</sub> emissions, the facility is expected to request CCDM status for those pollutants, exempting CAM requirements. This permit will contain language indicating CAM applicability and the facility will be required to submit monitoring ranges for the CAM plan for PM emissions should they not apply for the exemption, and comply with CAM requirements within 180 days of startup of this boiler.

#### Boiler B02

Since this boiler is identical in size to Boiler B01, the requirements are identical to those specified for Boiler B01. Refer to Boiler B01 details above since repeating those would be duplicative and unnecessary.

#### Limiting Maximum Emissions From Boilers 1 and 2

**SC Regulation 61-62.1, Section II(J)(2):** This regulation, as revised May 25, 2007, allows the Department to include special limits considered appropriate by the Department. In addition to BACT limits that assure use of best control technology to limit emissions of pollutants subject to PSD review, the Department determined mass emission limits are also necessary to assure the facility does not exceed the level of emissions as applied for in the application. Normally, these mass emission rates are contained in Attachment A of construction permits for which facilities have demonstrated compliance with those rates prior to permit issuance, and may administratively amend those rates, if necessary, by simply updating the modeling analysis. Compliance with the modeled emission rates in Attachment A is a state only enforceable requirement. For this permit, the Department believes it is essential to include maximum emission rates as limits and specify ongoing monitoring that demonstrate the facility will be adhering to those maximum emission rates as applied for in the application. The mass limit is determined by multiplying the maximum heat rate (million Btu/hr) by the BACT limit (lb/million Btu), increased by a factor of 53.3% for each boiler, and specified at the combined mass rate for both boilers. For monitoring of pollutants that do not have CEMS, only the pollutant that has the source test result with the emission rate closest to the limit, percent basis, need be monitored since the other pollutants would automatically show compliance.

Equip ID	Pollutant/ Parameter	Limit	Basis	Averaging Period	Monitoring	Reportin g
B01 and B02	PM (filterable)	1.36 tons/day, each; 2.05 tons/day, combined	SC Reg 61-62.1, Section II(J)(2)	24 hour block sum	Calculated from most recent source test and hourly heat rate	Quarterly
B01and B02	PM (total)	1.64 tons/day, each; 2.46 tons/day, combined	SC Reg 61-62.1, Section II(J)(2)	24 hour block sum	Calculated from most recent source test and hourly heat rate	Quarterly
B01 and B02	PM <sub>10</sub> (filterable)	1.09 tons/day, each; 1.64 tons/day, total	SC Reg 61-62.1, Section II(J)(2)	24 hour block sum	Calculated from most recent source test and hourly heat rate	Quarterly
B01 and B02	PM <sub>10</sub> (total)	21.64 tons/day, each; 2.46 tons/day, combined	SC Reg 61-62.1, Section II(J)(2)	24 hour block sum	Calculated from most recent source test and hourly heat rate	Quarterly
B01and B02	SO <sub>2</sub>	10.92 tons/day, each; 16.42 tons/day, combined	SC Reg 61-62.1, Section II(J)(2)	24 hour block sum	CEMS	Quarterly
B01and B02	NO <sub>x</sub>	6.37 tons/day, each; 9.58 tons/day, combined	SC Reg 61-62.1, Section II(J)(2)	24 hour block sum	CEMS	Quarterly
B01and B02	CO	13.65 tons/day, each; 20.52 tons/day,	SC Reg 61-62.1, Section II(J)(2)	24 hour block sum	Calculated from most recent source test and	Quarterly



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		combined			hourly heat rate	
B01and B02	VOC	0.22 tons/day, each; 0.33 tons/day, combined	SC Reg 61-62.1, Section II(J)(2)	24 hour block sum	Calculated from most recent source test and hourly heat rate	Quarterly
B01and B02	Lead	0.0017 tons/day, each; 0.0026 tons/day, combined	SC Reg 61-62.1, Section II(J)(2)	24 hour block sum	Calculated from most recent source test and hourly heat rate	Quarterly
B01and B02	Fluorides	0.031 tons/day, each; 0.047 tons/day, combined	SC Reg 61-62.1, Section II(J)(2)	24 hour block sum	Calculated from most recent source test and hourly heat rate	Quarterly
B01and B02	Sulfuric Acid Mist	0.455 tons/day, each; 0.684 tons/day, combined	SC Reg 61-62.1, Section II(J)(2)	24 hour block sum	Calculated from most recent source test and hourly heat rate	Quarterly

The mass emission limits for the PSD pollutants for each boiler are calculated as follows (these corrected calculations supersede the incorrect calculations contained in the original draft permit and draft Statement of Basis that were public noticed on October 9, 2007:

PM (filterable): BACT rate of 0.015 lb/million Btu x 5700 million Btu/hr x 24 hrs x 1 ton/2000 lbs = 1.026 tons/day/boiler  
Limit for operation of one boiler only = 1.026 x 1.33 = 1.36 tons/day. (Not 2.09 tons/day as stated in original Statement of Basis)  
Limit for combined boilers = 1.026 x 2 = 2.05 tons/day. (not 2.72 tons/day)

PM (total): BACT rate of 0.018 lb/million Btu x 5700 million Btu/hr x 24 hrs x 1 ton/2000 lbs = 1.231 tons/day/boiler  
Limit for operation of one boiler only = 1.231 x 1.33 = 1.64 tons/day. (not 2.51 tons/day)  
Limit for combined boilers = 1.231 x 2 = 2.46 tons/day. (not 3.28 tons/day)

PM<sub>10</sub> (filterable): BACT rate of 0.012 lb/million Btu x 5700 million Btu/hr x 24 hrs x 1 ton/2000 lbs = 0.821 tons/day/boiler  
Limit for operation of one boiler only = 0.821 x 1.33 = 1.09 tons/day. (not 1.67 tons/day)  
Limit for combined boilers = 0.821 x 2 = 1.64 tons/day. (not 2.18 tons/day)

PM<sub>10</sub> (total): BACT rate of 0.018 lb/million Btu x 5700 million Btu/hr x 24 hrs x 1 ton/2000 lbs = 1.231 tons/day/boiler  
Limit for operation of one boiler only = 1.231 x 1.33 = 1.64 tons/day. (not 2.51 tons/day)  
Limit for combined boilers = 1.231 x 2 = 2.46 tons/day. (not 3.28 tons/day)

SO<sub>2</sub>: BACT rate of 0.12 lb/million Btu x 5700 million Btu/hr x 24 hrs x 1 ton/2000 lbs = 8.208 tons/day/boiler  
Limit for operation of one boiler only = 8.208 x 1.33 = 10.92 tons/day. (not 16.74 tons/day)  
Limit for combined boilers = 8.208 x 2 = 16.42 tons/day. (not 21.84 tons/day)

NO<sub>x</sub>: BACT rate of 0.07 lb/million Btu x 5700 million Btu/hr x 24 hrs x 1 ton/2000 lbs = 4.788 tons/day/boiler  
Limit for operation of one boiler only = 4.788 x 1.33 = 6.37 tons/day. (not 9.77 tons/day)  
Limit for combined boilers = 4.788 x 2 = 9.58 tons/day. (not 12.74 tons/day)

CO: BACT rate of 0.15 lb/million Btu x 5700 million Btu/hr x 24 hrs x 1 ton/2000 lbs = 10.26 tons/day/boiler  
Limit for operation of one boiler only = 10.26 x 1.33 = 13.65 tons/day. (not 20.93 tons/day)  
Limit for combined boilers = 10.26 x 2 = 20.52 tons/day. (not 27.30 tons/day)

VOC: BACT rate of 0.0024 lb/million Btu x 5700 million Btu/hr x 24 hrs x 1 ton/2000 lbs = 0.164 tons/day/boiler  
Limit for operation of one boiler only = 0.164 x 1.33 = 0.22 tons/day. (not 0.34 tons/day)  
Limit for combined boilers = 0.164 x 2 = 0.33 tons/day. (not 0.44 tons/day)

Lead: BACT rate of 1.91E-05 lb/million Btu x 5700 million Btu/hr x 24 hrs x 1 ton/2000 lbs = 0.0013 tons/day/boiler  
Limit for operation of one boiler only = 0.0013 x 1.33 = 0.0017 tons/day. (not 0.0028 tons/day)  
Limit for combined boilers = 0.0013 x 2 = 0.0026 tons/day. (not 0.0036 tons/day)

Fluorides: BACT rate of 3.41E-04 lb/million Btu x 5700 million Btu/hr x 24 hrs x 1 ton/2000 lbs = 0.0233 tons/day/boiler



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Phone: 803-898-4123 Fax: 803-898-4079

<b>Company Name:</b>	Santee Cooper Pee Dee Generating Station	<b>Permit Writer:</b>	Joe Eller
<b>Permit Number:</b>	1040-0113-CA	<b>Date:</b>	December 16, 2008

Limit for operation of one boiler only =  $0.0233 \times 1.33 = 0.031$  tons/day. (not 0.048 tons/day)

Limit for combined boilers =  $0.0233 \times 2 = 0.047$  tons/day. (not 0.062 tons/day)

Sulfuric Acid Mist: BACT rate of 0.005 lb/million Btu x 5700 million Btu/hr x 24 hrs x 1 ton/2000 lbs = 0.342 tons/day/boiler

Limit for operation of one boiler only =  $0.342 \times 1.33 = 0.455$  tons/day. (not 0.69 tons/day)

Limit for combined boilers =  $0.342 \times 2 = 0.684$  tons/day. (not 0.90 tons/day)

#### Coal Material Transfer (Unit ID03)

SC Standard No. 4: The coal handling process is subject to SC Standard No. 4. The affected processes are limited to an opacity limit of 20% and processes that have material throughput have a PM limit defined by the formula  $E = (F) (55.0 P^{0.11} - 40)$  where in this case  $F=1$  and  $P$  is greater than 30 tph. The PM limit is 76.23 lb/hr (compared to actual emissions of 39.24 lb/hr uncontrolled and 6.57 lb/hr controlled) based on a maximum throughput of 900 tons/hr.

SC Standard No. 7: Because this is a PSD project and the coal material transfer process has emissions of one of the PSD pollutants, PM, emissions are restricted to the maximum potential controlled emission rate stated in the application which is 6.57 lb/hr.

Federal Regulation 40CFR60 Subparts A and Y: Portions of the coal handling process are also subject to New Source Performance Standards Subpart Y. The affected sources (conveying and processing equipment associated with size reduction) are limited to an opacity limit of 20%. PM limits specified by Subpart Y apply to thermal dryers and pneumatic coal cleaning systems, neither of which is to be installed at this facility.

Tabulated requirements for the coal material transfer incorporating the above limits are:

Unit ID	Equip ID	Pollutant/Parameter	Limit	Basis	Averaging Period	Monitoring	Reporting
03	Each	Opacity	20%	SC Std. 4	None	Visual inspection (Method 9 if source test required), or baghouse/water mist dust collector pressure drop where applicable	Semi-annually
03	MT10 MT11 MT12	Opacity	20%	40CFR60 Subpart Y	6 minutes	Initial source test (Method 9)	60 / 180 days
03	Combined	PM	76.23 lb/hr	SC Std. 4	3 hours (3 1-hour tests)	Not required (Method 5 if test required)	Not required
03	Combined	PM	6.57 lb/hr	SC Std. 7	3 hours	Representative source test (Method 5 if test required) (See Note 1)	60 / 180 days (if unit is selected)

Note 1: This material handling system as well as the other material handling systems will undergo source testing to determine compliance with the SC Standard No. 7 PSD limits. However, only one source test will be required for each type of similar baghouses or water mist dust collectors from all material handling processes to avoid unnecessary testing duplication. Initial source testing shall be conducted for each type baghouse or water mist dust collector used for highest emitting sources. Proposed sources to be tested shall be submitted to the Bureau for review and approval prior to testing.

#### Petcoke Material Transfer (Unit ID 04)

SC Standard No. 4: The petcoke material transfer process is subject to SC Standard No. 4. The affected processes are limited to an opacity limit of 20% and processes that have material throughput have a PM limit defined by the formula  $E = (F) (55.0 P^{0.11} - 40)$  where in this case  $F=1$  and  $P$  is greater than 30 tph. The PM limit is 76.23 lb/hr (compared to actual emissions of 4.49 lb/hr uncontrolled and 2.51 lb/hr controlled) based on a maximum throughput of 900 tons/hr.

SC Standard No. 7: Because this is a PSD project and the petcoke material transfer process has emissions of one of the PSD pollutants, PM, emissions are restricted to the maximum potential controlled emission rate stated in the application which is 2.51 lb/hr.





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### BAQ Engineering Services Division

2600 Bull Street, Columbia, SC 29201

Phone: 803-898-4123 Fax: 803-898-4079

**Company Name:** Santee Cooper Pee Dee Generating Station  
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**Permit Writer:** Joe Eller  
**Date:** December 16, 2008

Tabulated requirements for the petcoke material transfer incorporating the above limits are:

Unit ID	Equip ID	Pollutant/Parameter	Limit	Basis	Averaging Period	Monitoring	Reporting
04	Each	Opacity	20%	SC Std. 4	None	Visual inspection (Method 9 if source test required), or baghouse/water mist dust eliminator pressure drop where applicable	Semi-annually
04	Combined	PM	76.23 lb/hr	SC Std. 4	3 hours (3 1-hour tests)	Not required (Method 5 if test required)	Not required
04	Combined	PM	2.51 lb/hr	SC Std. 7	3 hours	Representative source test (Method 5 if test required)	60 / 180 days (if unit is selected)

#### Coal-Petcoke Crusher (Unit ID 05)

SC Standard No. 4: The coal-petcoke crusher process is subject to SC Standard No. 4. The affected processes are limited to an opacity limit of 20% and processes that have material throughput have a PM limit defined by the formula  $E = (F) (55.0 P^{0.11} - 40)$  where in this case  $F=1$  and  $P$  is greater than 30 tph. The PM limit is 76.23 lb/hr (compared to actual emissions of 59 lb/hr uncontrolled and 0.59 lb/hr controlled) based on a maximum throughput of 900 tons/hr.

SC Standard No. 7: Because this is a PSD project and the coal-petcoke crusher process has emissions of one of the PSD pollutants, PM, emissions are restricted to the maximum potential controlled emission rate stated in the application which is 0.59 lb/hr.

Federal Regulation 40CFR60 Subparts A and Y: The coal crushing process is also subject to New Source Performance Standards Subpart Y. The affected sources are limited to an opacity limit of 20%. PM limits specified by Subpart Y apply to thermal dryers and pneumatic coal cleaning systems, neither of which is to be installed at this facility.

Tabulated requirements for the coal-petcoke crusher process incorporating the above limits are:

Unit ID	Equip ID	Pollutant/Parameter	Limit	Basis	Averaging Period	Monitoring	Reporting
05	CR01	Opacity	20%	SC Std. 4	None	Visual inspection (Method 9 if source test required), or baghouse/water mist dust eliminator pressure drop where applicable	Semi-annually
05	CR01	Opacity	20%	40CFR60 Subpart Y	6 minutes	Initial source test (Method 9)	60 / 180 days
05	CR01	PM	76.23 lb/hr	SC Std. 4	3 hours (3 1-hour tests)	Not required (Method 5 if test required)	Not required
05	CR01	PM	0.59 lb/hr	SC Std. 7	3 hours	Representative source test (Method 5 if test required)	60 / 180 days (if unit is selected)

#### Limestone Material Transfer (Unit ID 06)

SC Standard No. 4: The limestone material transfer process is subject to SC Standard No. 4. The affected processes are limited to an opacity limit of 20% and processes that have material throughput have a PM limit defined by the formula  $E = (F) (55.0 P^{0.11} - 40)$



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where in this case  $F=1$  and  $P$  is greater than 30 tph.. The PM limit is 53.55 lb/hr (compared to actual emissions of 1.62 lb/hr uncontrolled and 0.836 lb/hr controlled) based on a maximum throughput of 125 tons/hr.

SC Standard No. 7: Because this is a PSD project and the limestone material transfer process has emissions of one of the PSD pollutants, PM, emissions are restricted to the maximum potential controlled emission rate stated in the application which is 0.40 lb/hr.

Federal Regulation 40CFR60 Subparts A and OOO: Portions of the limestone handling process are also subject to New Source Performance Standards Subpart OOO. The affected processes are limited to an opacity limit of 7% from conveyor transfer point stacks and baghouse stacks, and 10% from fugitive sources. Each point source is also limited to PM emissions of 0.022 grains/dscf.

Tabulated requirements for the limestone material transfer incorporating the above limits are:

Unit ID	Equip ID	Pollutant/Parameter	Limit	Basis	Averaging Period	Monitoring	Reporting
06	Each	Opacity	20%	SC Std. 4	None	Visual inspection (Method 9 if source test required), or baghouse/water mist dust eliminator pressure drop where applicable	Semi-annually
06	MT23 MT24 MT25 MT28 MT29 MT30	Opacity	7%	40CFR60 Subpart OOO	6 minutes	Initial source test (Method 9)	60 / 180 days
06	MT20 MT21 MT22 MT26 MT27	Opacity	10%	40CFR60 Subpart OOO	6 minutes	Initial source test (Method 9)	60 / 180 days
06	MT23 MT24 MT25 MT28 MT29 MT30	PM	0.022 grains/dscf	40CFR60 Subpart OOO	3 hours (3 1-hour tests)	Initial source test (Method 5)	60 / 180 days
06	Combined	PM	53.55 lb/hr	SC Std. 4	3 hours (3 1-hour tests)	Not required (Method 5 if test required)	Not required
06	Combined	PM	0.84 lb/hr	SC Std. 7	3 hours	Representative source test (Method 5 if test required)	60 / 180 days (if unit is selected)

#### Limestone Crusher (Unit ID 07)

SC Standard No. 4: The coal handling process is subject to SC Standard No. 4. The affected processes are limited to an opacity limit of 20% and processes that have material throughput have a PM limit defined by the formula  $E = (F) (55.0 P^{0.11} - 40)$  where in this case  $F=1$  and  $P$  is greater than 30 tph. The PM limit is 53.55 lb/hr (compared to actual emissions of 5.0 lb/hr uncontrolled and 0.05 lb/hr controlled) based on a maximum throughput of 125 tons/hr.

SC Standard No. 7: Because this is a PSD project and the limestone crusher process has emissions of one of the PSD pollutants, PM, emissions are restricted to the maximum potential controlled emission rate stated in the application which is 0.05 lb/hr.



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Federal Regulation 40CFR60 Subparts A and OOO: The limestone crusher is subject to New Source Performance Standards Subpart OOO. The crusher is limited to an opacity limit of 7% from the baghouse stack. The crusher (as a point source) is also limited to PM emissions of 0.022 grains/dscf.

Tabulated requirements for the limestone crusher process incorporating the above limits are:

Unit ID	Equip ID	Pollutant/Parameter	Limit	Basis	Averaging Period	Monitoring	Reporting
07	CR02	Opacity	20%	SC Std. 4	None	Visual inspection (Method 9 if source test required), or baghouse/water mist dust eliminator pressure drop where applicable	Semi-annually
07	CR02	PM	53.55 lb/hr	SC Std. 4	3 hours (3 1-hour tests)	Not required (Method 5 if test required)	Not required
07	CR01	Opacity	7%	40CFR60 Subpart OOO	6 minutes	Initial source test (Method 9)	60 / 180 days
07	CR02	PM	0.05 lb/hr	SC Std. 7	3 hours	Representative source test (Method 5 if test required)	60 / 180 days (if unit is selected)
07	CR02	PM	0.022 grains/dscf	40CFR60 Subpart OOO	3 hours (3 1-hour tests)	Initial source test (Method 5)	60 / 180 days

### Gypsum Material Transfer (ID 08)

SC Standard No. 4: The gypsum material transfer process is subject to SC Standard No. 4. The affected processes are limited to an opacity limit of 20% and processes that have material throughput have a PM limit defined by the formula  $E = (F) (55.0 P^{0.11} - 40)$  where in this case  $F=1$  and  $P$  is greater than 30 tph. The PM limit is 60.50 lb/hr (compared to actual emissions of 1.302 lb/hr uncontrolled and no controls present) based on a maximum throughput of 240 tons/hr.

SC Standard No. 7: Because this is a PSD project and the gypsum material transfer process has emissions of one of the PSD pollutants, PM, emissions are restricted to the maximum potential emission rate stated in the application which is 1.302 lb/hr.

Federal Regulation 40CFR60 Subparts A and OOO: Portions of the gypsum material transfer system are subject to New Source Performance Standard Subpart OOO. The affected fugitive processes are limited to an opacity limit of 10%.

Tabulated requirements for the gypsum material transfer incorporating the above limits are:

Unit ID	Equip ID	Pollutant/Parameter	Limit	Basis	Averaging Period	Monitoring	Reporting
08	Each	Opacity	20%	SC Std. 4	None	Visual inspection (Method 9 if source test required)	Semi-annually
08	MT34 MT35 MT36	Opacity	10%	40CFR60 Subpart OOO	6 minutes	Initial source test (Method 9)	60 / 180 days
08	Combined	PM	60.50 lb/hr	SC Std. 4	3 hours (3 1-hour tests)	Not required (Method 5 if test required)	Not required
08	Combined	PM	1.30 lb/hr	SC Std. 7	3 hours	Representative source test (Method 5 or other approved method if test	60 / 180 days (if unit is selected)



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#### Fly Ash Material Transfer (Unit ID 09)

SC Standard No. 4: The coal handling process is subject to SC Standard No. 4. The affected processes are limited to an opacity limit of 20% and processes that have material throughput have a PM limit defined by the formula  $E = (F) (55.0 P^{0.11} - 40)$  where in this case  $F=1$  and  $P$  is greater than 30 tph. The PM limit is 63.00 lb/hr (compared to actual emissions of 4.462 lb/hr uncontrolled and 0.04462 lb/hr controlled) based on a maximum throughput of 300 tons/hr.

SC Standard No. 7: Because this is a PSD project and the fly ash material transfer process has emissions of one of the PSD pollutants, PM, emissions are restricted to the maximum potential controlled emission rate stated in the application which is 0.04462 lb/hr.

Tabulated requirements for the fly ash material transfer incorporating the above limits are:

Unit ID	Equip ID	Pollutant/Parameter	Limit	Basis	Averaging Period	Monitoring	Reporting
09	Each	Opacity	20%	SC Std. 4	None	Visual inspection (Method 9 if source test required), or baghouse/water mist dust eliminator pressure drop where applicable	Semi-annually
09	Combined	PM	63.00 lb/hr	SC Std. 4	3 hours (3 1-hour tests)	Not required (Method 5 if test required)	Not required
09	Combined	PM	0.045 lb/hr	SC Std. 7	3 hours	Representative source test (Method 5 if test required)	60 / 180 days (if unit is selected)

#### Bottom Ash Material Transfer (Unit ID 10)

SC Standard No. 4: The coal handling process is subject to SC Standard No. 4. The affected processes are limited to an opacity limit of 20% and processes that have material throughput have a PM limit defined by the formula  $E = (F) (55.0 P^{0.11} - 40)$  where in this case  $F=1$  and  $P$  is greater than 30 tph. The PM limit would be 63.00 lb/hr (compared to no actual emissions since this is a wet process) based on a maximum throughput of 300 tons/hr, but the limit is not being included in the permit since it is a wet process.

SC Standard No. 7: Since this is a wet process and there are no PM emissions, there is no PM limit being stated in this permit.

Tabulated requirements for the bottom ash material transfer incorporating the above limits are:

Unit ID	Equip ID	Pollutant/Parameter	Limit	Basis	Averaging Period	Monitoring	Reporting
10	Each	Opacity	20%	SC Std. 4	None	Visual inspection (Method 9 if source test required)	Semi-annually

#### Cooling Towers (Unit ID 11)

SC Standard No. 4: The cooling tower process is subject to SC Standard No. 4. The affected processes are limited to an opacity limit of 20% and since these processes do not result in a product, the PM limit is not applicable.

SC Standard No. 7: Because this is a PSD project and the cooling tower process has emissions of one of the PSD pollutants, PM, emissions are restricted to the level determined to represent BACT. Each of the cooling towers shall achieve a drift loss of 0.0005%, with a resulting emission rate not exceeding 4.66 lb/hr. The facility shall obtain a vendor performance guarantee that the cooling towers shall meet this drift loss efficiency.



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The cooling towers are not subject to 40CFR63 Subpart Q (Industrial Cooling Towers) since that subpart applies only to those cooling towers that are operated with chromium-based water treatment chemicals. These cooling towers will not use those chemicals.

Tabulated requirements for the cooling towers incorporating the above limits are:

Unit ID	Equip ID	Pollutant/Parameter	Limit	Basis	Averaging Period	Monitoring	Reporting
11	CT01, CT02	Opacity	20%, each	SC Std. 4	None	None (emissions will not be discernible)	None
11	CT01, CT02	PM	0.0005% drift loss, each	SC Std. 7	N/A	N/A	N/A

Note: The application was based on a drift loss efficiency of 0.005% and emissions calculated using that rate. The drift loss efficiency stated above and in the draft permit (0.0005%) is based on similar levels in other recently approved permits for similar facilities. The emissions using the revised drift loss efficiency are 0.466 lb/hr for each cooling tower, equivalent to 2.04 tons/year for each cooling tower, which is one tenth the level stated in the draft permit.

### Six Anhydrous Ammonia Storage Tanks

SC Regulation 61-62.68: Anhydrous ammonia is a listed 112(r) chemical and the facility will store more than 10,000 pounds on site. The six 30,000 gallon anhydrous ammonia storage tanks will be subject to SC Regulation 61-62.68 and must submit a Risk Management Plan prior to storage of the chemical on site.

Tabulated requirements for the anhydrous ammonia storage tanks incorporating the above limits are:

Equip ID	Pollutant/Parameter	Limit	Basis	Averaging Period	Monitoring	Reporting
T04-T09 (to be listed as insignificant sources on Title V permit)	RMP	N/A	SC Reg. 61-62.68	N/A	Maintain RMP up to date if any changes	Initial and upon any changes

### Emergency Generator D01

Fuel limitation: This source is limited to burning ultra low sulfur fuel oil containing 0.015% or less sulfur. If ultra low sulfur fuel oil is not commercially available, the facility is allowed to use No. 2 fuel oil containing 0.05% or less sulfur.

Operating time limitation: This unit will operate as an emergency source and is limited to 500 hours/year with a method to record the actual hours of use such as an hour meter. Meeting this requirement will allow this source to be permitted as an insignificant activity in the Title V operating permit.

Federal Regulation 40CFR60 Subparts A and IIII: The emergency generator is powered by a stationary compression ignition internal combustion engine. The manufacturer and owner/operator may be subject to certain requirements in this regulation.

Federal Regulation 40CFR63 Subparts A and ZZZZ: The emergency generator is powered by a stationary reciprocating internal combustion engine. Based on the emergency generator being rated at greater than 500 HP, it is subject to this regulation. However, since it is an emergency unit, it is exempt from all requirements except for an initial notification.

### Emergency Generator D02

Since this generator is identical to Generator D01, the requirements are identical to those specified for Emergency Generator D01. Refer to Emergency Generator D01 details above since repeating those would be duplicative and unnecessary.

### Fire Pump

Fuel limitation: This source is limited to burning ultra low sulfur fuel oil containing 0.015% or less sulfur. If ultra low sulfur fuel oil is not commercially available, the facility is allowed to use No. 2 fuel oil containing 0.05% or less sulfur.



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Operating time limitation: This unit will operate as an emergency source and is limited to 500 hours/year with a method to record the actual hours of use such as an hour meter. Meeting this requirement will allow this source to be permitted as an insignificant activity in the Title V operating permit.

Federal Regulation 40CFR60 Subparts A and IIII: The fire pump is powered by a stationary compression ignition internal combustion engine. The manufacturer and owner/operator may be subject to certain requirements in this regulation.

Federal Regulation 40CFR63 Subparts A and ZZZZ: The fire pump is powered by a stationary reciprocating internal combustion engine. However, the fire pump engine is less than 500 HP and is therefore not an affected source for this regulation.

### Combined Sources

In the initial application, the facility requested combined daily emission limits for both boilers as a means to meet ambient air quality. Refer to the above discussion on Combined Operation of Both Boilers B01 and B02 for the rationale and manner in which these limits have been included in the permit.

### Facility-Wide

SC Standard No. 2: The facility is required to demonstrate compliance with ambient air quality standards. Results of that demonstration is summarized in a separate Modeling Summary document and emissions used for that demonstration are shown in Appendix A of the permit.

SC Standard No. 5.1: Since the facility-wide VOC emissions are determined to be greater than 100 tpy on a potential basis (potential must be used where actual is not established), the facility must apply BACT controls (for sources permitted on or after June 24, 2004). The two combined boilers have potential VOC emissions of 120 tpy. Other sources (emergency units) contribute insignificantly to VOC emissions. Based on the boilers complying with Standard No. 7 PSD BACT requirements, the units will comply with requirements of this standard as well.

Equip ID	Pollutant/ Parameter	Limit	Basis	Averaging Period	Monitoring	Reporting
B01, B02	VOC	0.0024 lb/million Btu, each	SC Std. 5.1	3 hours	Initial source test	Within 30 days of test completion

SC Standard No. 5.2: See discussion below under topic of Other Regulations That Don't Apply.

SC Standard 7 PSD Ambient Air Limits: The facility is required to demonstrate compliance with allowable increments. Results of that demonstration is summarized in a separate Modeling Summary document and emissions used for that demonstration are shown in Appendix A of the permit.

SC Regulation 61-62.6: This regulation requires certain measures to avoid creating undesirable levels of emissions from fugitive sources. The storage piles and non-enclosed conveying and transfer sources may require wet suppression or other reasonably available control technology to comply. General language is included in the permit so the facility will meet these requirements.

SC Regulation 61-62.70: The facility is a major source and will be required to obtain a Title V permit by submitting an application within one year from start of operations.

The tables following are intended to describe the emission units as they might appear in the Title V permit as an aid to identification and categorization of the emissions units.

TABLE 5.1 EMISSION UNITS		
Unit ID	Unit Description	Control Device Description
01	Boiler No. 1	Fabric Filter, Wet Limestone FGD, Selective Catalytic Reduction



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**TABLE 5.1 EMISSION UNITS**

Unit ID	Unit Description	Control Device Description
02	Boiler No. 2	Fabric Filter, Wet Limestone FGD, Selective Catalytic Reduction
03	Material Transfer System – Coal	Baghouses or Water mist dust eliminators
04	Material Transfer System – Petcoke	Baghouse or Water mist dust eliminator
05	Coal / Petcoke Crusher	Baghouse or Water mist dust eliminator
06	Material Transfer System - Limestone	Baghouses or Water mist dust eliminators
07	Limestone Crusher	Baghouse or Water mist dust eliminator
08	Material Transfer System – Gypsum	N/A
09	Material Transfer System – Fly Ash	Baghouses or Water mist dust eliminators
10	Material Transfer System – Bottom Ash	N/A
11	Cooling Towers	N/A

**TABLE 5.2 CONTROL DEVICES**

Control Device ID	Control Device Description	Installation Date	Pollutant(s) Controlled
FF 1	Fabric Filter	To be determined	PM / PM <sub>10</sub>
Scrubber 1	Wet Limestone FGD	To be determined	SO <sub>2</sub>
SCR 1	Selective Catalytic Reduction	To be determined	NO <sub>x</sub>
FF 2	Fabric Filter	To be determined	PM / PM <sub>10</sub>
Scrubber 2	Wet Limestone FGD	To be determined	SO <sub>2</sub>
SCR 2	Selective Catalytic Reduction	To be determined	NO <sub>x</sub>
BH01 or WMDC01	Baghouse or water mist dust eliminator	To be determined	PM / PM <sub>10</sub>
BH02 or WMDC02	Baghouse or water mist dust eliminator	To be determined	PM / PM <sub>10</sub>
BH03 or WMDC03	Baghouse or water mist dust eliminator	To be determined	PM / PM <sub>10</sub>
BH04 or WMDC04	Baghouse or water mist dust eliminator	To be determined	PM / PM <sub>10</sub>
BH05 or WMDC05	Baghouse or water mist dust eliminator	To be determined	PM / PM <sub>10</sub>
BH06 or WMDC06	Baghouse or water mist dust eliminator	To be determined	PM / PM <sub>10</sub>
BH07 or WMDC07	Baghouse or water mist dust eliminator	To be determined	PM / PM <sub>10</sub>
BH08 or WMDC08	Baghouse or water mist dust eliminator	To be determined	PM / PM <sub>10</sub>
BH09 or WMDC09	Baghouse or water mist dust eliminator	To be determined	PM / PM <sub>10</sub>
BH10 or WMDC10	Baghouse or water mist dust eliminator	To be determined	PM / PM <sub>10</sub>
BH11 or WMDC11	Baghouse or water mist dust eliminator	To be determined	PM / PM <sub>10</sub>
BH12 or WMDC12	Baghouse or water mist dust eliminator	To be determined	PM / PM <sub>10</sub>
BH13 or WMDC13	Baghouse or water mist dust eliminator	To be determined	PM / PM <sub>10</sub>



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**TABLE 5.2 CONTROL DEVICES**

Control Device ID	Control Device Description	Installation Date	Pollutant(s) Controlled
BH14 or WMDC14	Baghouse or water mist dust eliminator	To be determined	PM / PM <sub>10</sub>
BVF01	Bin Vent Filter	To be determined	PM / PM <sub>10</sub>
BVF02	Bin Vent Filter	To be determined	PM / PM <sub>10</sub>
BVF03	Bin Vent Filter	To be determined	PM / PM <sub>10</sub>
BH15 or WMDC15	Baghouse or water mist dust eliminator	To be determined	PM / PM <sub>10</sub>
BH16 or WMDC16	Baghouse or water mist dust eliminator	To be determined	PM / PM <sub>10</sub>
BH17 or WMDC17	Baghouse or water mist dust eliminator	To be determined	PM / PM <sub>10</sub>
BH18 or WMDC18	Baghouse or water mist dust eliminator	To be determined	PM / PM <sub>10</sub>
BH19 or WMDC19	Baghouse or water mist dust eliminator	To be determined	PM / PM <sub>10</sub>
BH20 or WMDC20	Baghouse or water mist dust eliminator	To be determined	PM / PM <sub>10</sub>

**TABLE 5.3 UNIT ID 01 – Boiler No. 1**

Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
B01	5700 x 10 <sup>6</sup> Btu/hr maximum rated heat input (660 MW nominal rated output) Boiler	To be determined	Fabric Filter, Wet Limestone FGD, Selective Catalytic Reduction	S01

**TABLE 5.4 UNIT ID 02 – Boiler No. 2**

Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
B01	5700 x 10 <sup>6</sup> Btu/hr maximum rated heat input (660 MW nominal rated output) Boiler	To be determined	Fabric Filter, Wet Limestone FGD, Selective Catalytic Reduction	S02

**TABLE 5.5 UNIT ID 03 – Material Transfer System – Coal**

Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
MT01	Railcar Shaker	To be determined	BH01 or WMDC01	MT01
MT02	Conveyor Transfer to Stacker/Reclaimer	To be determined	BH02 or WMDC02	C3A
MT03	Emergency Stockout Drop to Pile	To be determined	N/A	C3B
SP03	Coal Storage Pile	To be determined	N/A	Fugitive
MT04	Transfer Tower Conveyors	To be determined	BH03 or WMDC03	C2
MT05	Emergency Reclaim	To be determined	BH04 or WMDC04	RP
MT08	Stacker/Reclaimer Stockout	To be determined	N/A	Fugitive
MT09	Stacker/Reclaimer Reclaim	To be determined	N/A	Fugitive
MT10	Conveyor to Crusher Tower	To be determined	BH05 or WMDC05	C3A, C4B
MT11	Conveyor to Transfer Tower	To be determined	BH06 or WMDC06	C5A, C5B
MT12	Conveyor to Bunkers	To be determined	BH07 or WMDC07	C6A, C6B
S01-S06	Bunker 1 Silos (6)	To be determined	BH08 or WMDC08	S01-S06
S07-S12	Bunker 2 Silos (6)	To be determined	BH09 or WMDC09	S07-S12





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**TABLE 5.7 UNIT ID 04 – Material Transfer System – Petcoke**

Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
SP04	Petcoke Storage Pile	To be determined	N/A	Fugitive
MT14	Petcoke Reclaim Feeder	To be determined	N/A	Fugitive
MT15	Conveyor Transfer	To be determined	BH10 or WMDC10	C4A

**TABLE 5.8 UNIT ID 05 – Coal/Petcoke Crusher**

Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
CR01	900 tons/hr Crusher	To be determined	BH11 or WMDC11	CR01

**TABLE 5.9 UNIT ID 06 – Material Transfer System – Limestone**

Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
MT20	Truck unloading to limestone pile	To be determined	N/A	Fugitive
SP01	Limestone Storage Pile	To be determined	N/A	Fugitive
MT21	Emergency limestone reclaim hopper loading	To be determined	N/A	Fugitive
MT22	Emergency limestone reclaim feeder	To be determined	N/A	Fugitive
MT23	Limestone drop to crusher house	To be determined	BH12 or WMDC12	MT23
MT24	Emergency limestone drop to crusher house	To be determined	BH13 or WMDC13	MT24
MT25	Limestone crusher drop to overland conveyors	To be determined	BH14 or WMDC14	MT25
MT26	Limestone overland conveyor drop to cross conveyor	To be determined	N/A	Fugitive
MT27	Emergency limestone overland conveyor drop to cross conveyor	To be determined	N/A	Fugitive
MT28	Limestone cross conveyor drop to limestone Silo #1	To be determined	BVF01	MT28
MT29	Limestone overland conveyor drop to limestone Silo #2	To be determined	BVF02	MT29
MT30	Limestone overland conveyor drop to limestone Silo #3	To be determined	BVF03	MT30

**TABLE 5.10 UNIT ID 07 – Limestone Crusher**

Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
CR02	125 tons/hr Crusher	To be determined	BH15 or WMDC15	CR02

**TABLE 5.11 UNIT ID 08 – Material Transfer System – Gypsum**

Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
MT34	Conveyor to stockout	To be determined	N/A	Fugitive
MT35	Conveyor to off-spec stockout	To be determined	N/A	Fugitive
SP02	Gypsum storage pile	To be determined	N/A	Fugitive
SP05	Off-spec gypsum storage pile	To be determined	N/A	Fugitive
MT36	Truck loading	To be determined	N/A	Fugitive

**TABLE 5.12 UNIT ID 09 – Material Transfer System – Fly Ash**

Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
MT16	Truck loadout 1	To be determined	BH16 or WMDC16	MT16
MT17	Truck loadout 2	To be determined	BH17 or WMDC17	MT17



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### BAQ Engineering Services Division

2600 Bull Street, Columbia, SC 29201

Phone: 803-898-4123 Fax: 803-898-4079

**Company Name:** Santee Cooper Pee Dee Generating Station  
**Permit Number:** 1040-0113-CA

**Permit Writer:** Joe Eller  
**Date:** December 16, 2008

**TABLE 5.12 UNIT ID 09 – Material Transfer System – Fly Ash**

Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
MT31	Wet fly ash truck loadout 1	To be determined	N/A	Fugitive
MT32	Wet fly ash truck loadout 2	To be determined	N/A	Fugitive
MT18	Silo 1	To be determined	BH18 or WMDC18	MT18
MT19	Silo 2	To be determined	BH19 or WMDC19	MT19
MT33	Lime Silo	To be determined	BH20 or WMDC20	MT33

**TABLE 5.13 UNIT ID 10 – Material Transfer System – Bottom Ash**

Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
MT37	Bottom ash transfer point	To be determined	N/A	Fugitive

**TABLE 5.14 UNIT ID 11 – Cooling Towers**

Equip ID	Equipment Description	Installation Date	Control Device ID	Stack ID
CT01	287,100 gpm Cooling Tower 1	To be determined	N/A	Fugitive
CT02	287,100 gpm Cooling Tower 2	To be determined	N/A	Fugitive

### Plantwide Applicability Limits (PAL)

In the initial application, the facility proposed the establishment of annual plantwide applicability limits for all the major pollutants. During subsequent discussions, the facility and the Bureau agreed that this request would be dropped from the application.

### Other Considerations

Since petcoke is not included in the definition of coal for NSPS Subpart Da, regulatory requirements of NSPS Subpart Y are assumed to not apply to the petcoke process. However, for those process elements involving a blend of coal and petcoke, Subpart Y is assumed to apply. It should be noted that petcoke is included in the definition for coal in Subpart Dc which would indicate that Subpart Y would apply to petcoke sources located with a Subpart Dc boiler.

Since NSPS Subpart OOO defined materials do not include coal and petcoke, regulatory requirements of Subpart OOO are assumed to not apply to the coal and petcoke processes.

### Mercury

Mercury is not a PSD regulated pollutant. In the draft PSD permit it was regulated by 40 CFR 60 Subpart Da and had a specified emission limit of  $20 \times 10^{-6}$  lb/MWh. That equated to an emission limit of 0.0132 lb/hr at maximum rated capacity or 115.6 lb/year. The draft PSD permit included a mercury emission limit of 69 pounds per 12 month rolling sum per boiler which represents approximately 90% reduction by combined use of Fabric Filter, FGD scrubber, and SCR controls. This emission rate was based on 90 % control of mercury content in coal, allowing one standard deviation above the average, based on bituminous coal described in the EPA document "ICR Data Analysis Presentation for NWF" (September, 2000), and was supported by recent source tests from the new Boiler No. 3 at the Santee Cooper Cross Generating Station. The ICR data shows an average mercury content in bituminous coal of 7.05 lb/trillion Btu and standard deviation of 6.69 lb/trillion Btu.  $[(7.05 + 6.69) \text{ lb/trillion Btu} \times 5700 \text{ million Btu/hr} \times 8760 \text{ hr/yr} \times 10\% = 69 \text{ lb/yr.}]$  This emission limit was a state-only requirement. Since federal CAMR was vacated, Mercury will not be regulated under the federal NSPS Subpart Da, but under the state NSPS Subpart Da (until such time as the state NSPS Subpart Da is repealed). Mercury will also be regulated by case-by-case requirements discussed elsewhere in this document and reflecting a limit of 8.0E-06 lb/MWh (maximum of 46.3 lb/yr) for each boiler.

### Other Regulations That Don't Apply

SC Standard No. 3: The facility has not applied to burn any waste materials.

SC Standard No. 3.1: The facility will not be burning any medical waste.

SC Standard No. 5: This standard applies to existing sources as of July 1, 1979 or July 1, 1980. This facility did not exist on those dates.

SC Standard No. 5.2: This standard does not apply to sources that have undergone BACT review, which includes all the equipment that contribute to NO<sub>x</sub> emissions. This regulation applies to certain sources that have not undergone a BACT review for NO<sub>x</sub> in accordance with SC Regulation 61-62.5, Standard No. 7. The boilers, emergency generators, and fire pump all have NO<sub>x</sub>



## STATEMENT OF BASIS

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### BAQ Engineering Services Division

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Santee Cooper Pee Dee Generating Station

**Permit Number:**

1040-0113-CA

**Permit Writer:**

Joe Eller

**Date:**

December 16, 2008

emissions and are being permitted based on a review of Std. No. 7. The two emergency generators are not subject to this regulation by definition since they meet the exemption criteria stated in Section I(b)(2) stated as emergency power generators of less than 150 KW rated capacity, or those that operate 500 hours per year or less and have a method to record the actual hours of use such as an hour meter. These generators will operate less than 500 hours per year. The emergency fire pump is not subject to this regulation by definition. While this unit will not generate electrical power, it is an emergency unit and will generate mechanical power (to pump water) and will operate less than 500 hours per year. The fire pump is exempt from this regulation on the same basis as the emergency power generators.

SC Standard No. 6: This regulation is not applicable.

SC Standard No. 7.1: This facility is not located in a non-attainment area. However, should the designation be revised prior to construction of either boiler, the Bureau may reopen the permit to determine if additional requirements are necessary. Should re-designation occur after construction of the boilers, the facility may be required to comply with more stringent requirements and is encouraged to plan for such actions.

SC Standard No. 8: The facility is exempted from this standard since the only fuels combusted are virgin fuels.

### SUMMARY AND CONCLUSIONS

It has been determined that this source, if operated in accordance with the submitted application, will meet all applicable requirements and emission standards.